This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

Consular reports

United States. Bureau of Foreign Commerce, United
States. Dept. of Commerce and Labor

Econ 5810.2

Bound
FEB 15 1902

Harvard College Library
FROM THE
UNITED STATES GOVERNMENT
THROUGH

14 Sept. – 10 Dec. 1901

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

VOL. LXVII.

NOS. 252, 253, 254, AND 255.

SEPTEMBER, OCTOBER, NOVEMBER, AND DECEMBER, 1901.

DEPARTMENT OF STATE * UNITED STATES OF AMERICA *

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1901.

Econ 5810.2

Econ 5810.2

Vol. LXVII. No. 252.- 255

CONSULAR REPORTS.

SEPTEMBER, 1901.

COMMERCE, MANUFACTURES, ETC.

[FOR TABLE OF CONTENTS, SEE FIRST PAGE.]

DEPARTMENT OF STATE
UNITED STATES OF AMERICA

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1901.

Eccn. 5810.2

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

Vol. LXVII. SEPTEMBER, 1901. No. 252.

REDUCTION OF COPPER ORES IN FOREIGN COUNTRIES.

In compliance with the request of a New York firm, a Department instruction was sent December 17, 1900, to consular officers in certain foreign countries, requesting information as to the treatment of copper ore. The replies received* (the publication of which has been delayed because the series was not complete) are given below.

GERMANY.

In compliance with instructions from the Department of State, I have to report as follows concerning the production of copper in Germany:

The industry dates from the twelfth century, and began at Hettstedt, near Mansfeld, in Prussian Saxony, whence it extended throughout the southern portion of the Harz Mountain district and developed great activity during the fifteenth and sixteenth centuries.

There was mined in Germany in 1899—the last year for which complete statistics are accessible—733,619 metric tons of copper ore, from which was produced 34,633 tons of copper, an average yield of 4.77 per cent. Besides this, 2,367 tons of copper were produced from imported (mainly Spanish) ores, making the total product 37,000 tons, besides which Germany imported, in 1899, 70,031 tons of raw and ingot copper and 78,764 tons in 1900, of which last

---

*ADVANCE SHEETS have been sent the inquirer.

62,661 tons came from the United States. The electrical industry of this country alone consumes annually about 40,000 tons of copper, whereas only about 3,000 tons of the yearly native product is electrolytic copper, and therefore adapted to certain electrical purposes. Germany produces therefore only one-thirteenth of the required amount of electrolytic copper and one-third of the general supply for all purposes.

The copper ores of Germany are mainly the sulphides, viz: (1) "Kupferkies," or chalcopyrite ($CuFeS_2$), containing from 2 to 3 per cent of copper; (2) chalcosin, or copper galena, called in German "Kupferglanz" (Cu_2S); and (3) bornit, or variegated copper ores, "Buntkupfererz" ($3Cu_2S, Fe_2S3$). Of these, by far the most important is the chalcopyrite, which is found in the form of a bituminous copper-bearing slate (Mergelschiefer) in the Mansfeld district and at Goslar, in Prussian Saxony.

The production of copper from all these ores is accomplished by one of two general methods, known, respectively, as the "dry process" (roasting and smelting) and the "wet process," in which the metal is leached from the ores with chemical solutions and then precipitated by the action of scrap iron. Of these, by far the most important and widely practiced in this country is the dry process, and both are so complicated and technical, varying in practice with every peculiarity in composition or quality of the ore to be treated, that a scientific description of them fills 275 pages of the standard textbook used in the mining schools, and is incomprehensible to anyone but a metallurgist. The most that can be done in a report of this character will be to indicate briefly the general nature of these operations and the apparatus employed. What is known in practical metallurgy as

I.—"THE GERMAN PROCESS"

of copper production consists of roasting and smelting operations, as follows:

(1) Roasting the raw ores.

(2) The smelting of the roasted ores in blast furnace, whereby is produced "Kupferstein," or crude copper matte—a mixture of sulphates of copper, iron, silver, and other metals and containing an average of 30 to 33 per cent of copper.

(3) Roasting of "Kupferstein," or matte.

(4) Smelting and purification of the roasted matte and the production thereby of raw or black copper (Schwarzkupfer), which is subsequently refined by smelting and further treatment to crude copper of 98 to 98.5 per cent purity, or by electrolysis to electrolytic copper.

This general process is the one ordinarily practiced for reducing the bituminous cupriferous slates (chalcopyrite) of the Mansfeld district, and may be concisely described as follows:

	Per cent.
Silicon oxide	29 to 38
Aluminum oxide	11 to 16
Calcium oxide	11 to 14
Magnesium oxide	2.25 to 3.5
Carbonic oxide	7 to 13.5
Iron	.85 to 3.31
Copper	2.01 to 2.93
Silver	.01 to .021
Sulphur	2.15 to 4.97
Bitumen	10 to 17

There is thus present, besides the oxides of silicon, aluminum, and calcium, iron, magnesium, arsenic, sulphur, bitumen, and silver; and, in addition to these, traces of zinc, manganese, lead, nickel, and cobalt. The ores are first roasted in long, narrow heaps or open-air kilns, in which the fire is largely sustained by the bitumen in the ore. This is wholly consumed, and the greater portion of the carbonic oxide and sulphur likewise expelled. The roasting requires considerable skill, in order that it shall not be pushed too far, and thus eliminate too much of certain elements which are essential to the success of the subsequent smelting operation.

The roasted ore at this stage gives the following average analysis:

	Per cent.
Silicon oxide (ScO_2)	49 to 53
Aluminum oxide (Al_2Oz)	15.3 to 18
Calcium oxide (CaO)	10 to 18
Sisquioxide iron (Fe_2Oz)	About 8
Magnesium oxide (MgO)	3.3 to 4.65
Metallic sulphides	Variable quantities.

This roasted material is then smelted in a blast furnace, with or without fluxing material, according to the composition of the ore, whereby a large proportion of the impurities is drawn off in the slag, leaving the metals concentrated in the "Kupferstein," or crude copper matte, which gives the following mean analysis:

	Per cent.
Copper	41.36
Silver	0.226
Lead	0.537
Iron	24.325
Manganese	0.85
Zinc	3.711
Nickel	0.3
Cobalt	0.292
Arsenic	0.08
Sulphur	25.815

The net yield of "Kupferstein" is about 7.5 per cent of the original weight of ore, and it contains about 30.2 kilograms (66.57 pounds) of copper per metric ton (2,204 pounds) of ore. The next step in the process is the "dead roasting" of the matte (Kupferstein), which is done either in a low shaft furnace, 12 to 15 feet in height, or in a form of open kilns, called in Germany "Hallen," which are under roof, in order to prevent rain from reaching the contents of the kiln and leaching out part of the copper sulphates. These kilns vary in capacity from 50 to 150 tons, and the roasting must be repeated several times, according to the nature of the foreign elements contained in the matte. Arsenic and antimony are among the most difficult impurities to expel, and often require that the material shall be roasted five or six times in succession, as it is essential that the heat shall never reach the smelting point of copper and thus fuse it into a stubborn, impure mass. The whole process of dead roasting lasts, according to the nature of the matte, from six to eight weeks—that is, eight to fourteen days for the first roast, and the succeeding ones from three to six days each.

When the sulphur gases are to be utilized for the manufacture of sulphuric acid, the roasting is done either in a small shaft furnace, called in this country "Schachtoefen," in which case the Kupferstein is broken before roasting into small, irregular lumps, or it is pulverized and roasted in a special kind of oven or furnace invented by Geestenhöfer and named after the inventor, which has the disadvantage of creating an undue amount of dust, and is not therefore generally used. By this second roasting process, the sulphur is expelled in gas which contains 4 to 6 per cent of sulphurous oxide (SO_2) and which is used in the usual manner for the manufacture of sulphuric acid, which, except silver, is the most important by-product of this progressive reduction process. The roasting being finished, the matte, which contains still copper and silver in combination with sulphur, is smelted, with addition of quartz sand as fluxing material. This carries off most of the remaining impurities, leaving at the bottom of the furnace "Bodenkupfer," or raw metal, containing about 94 per cent of copper and 0.9 per cent of silver, and next above this (2) a stratum of "Spurstein" containing 73 to 76 per cent copper and 0.44 per cent silver as well as other metals, all in combination with sulphur. Above this, as the third and lightest product of the smelting process, is the "Spurslag," containing 3 to 4 per cent copper and 0.005 per cent silver, which had been oxidized during the roasting process and remained in the slag as silicates. These are saved by returning the slag to the first stage of the reduction process, where it is mixed with fresh ores and begins the roasting and smelting over again.

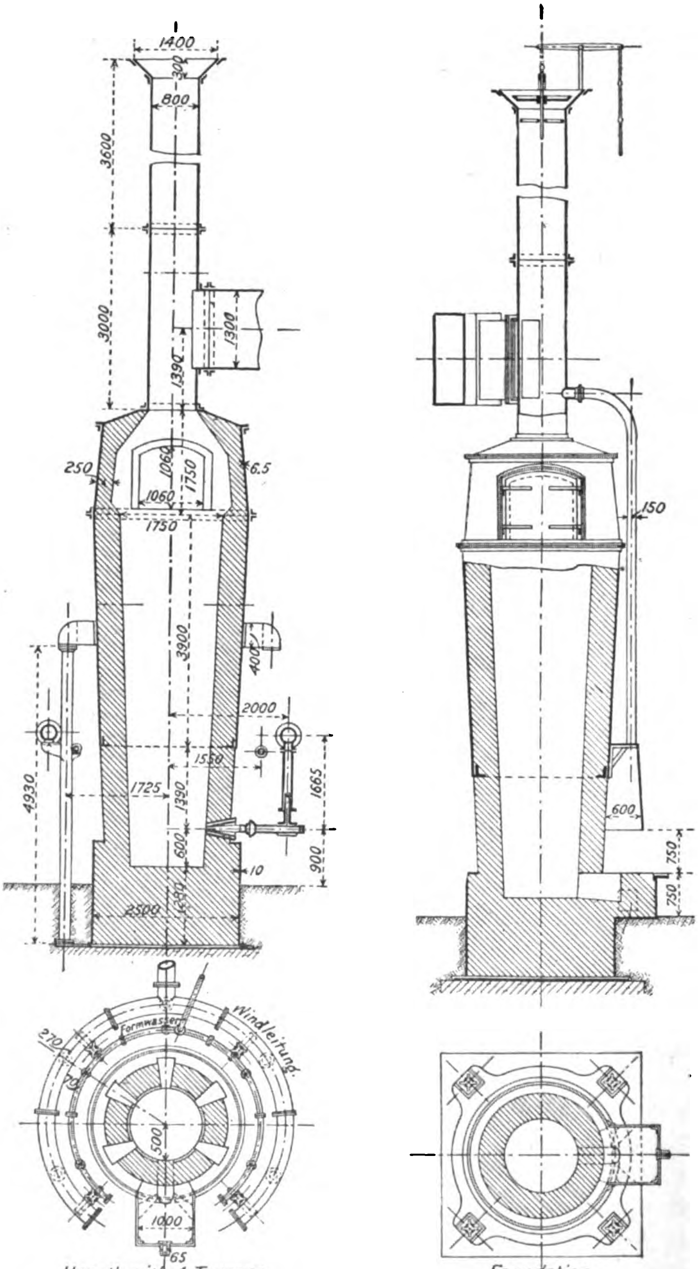
The "Spurstein" is now submitted, for the purpose of separating the copper and silver, to what is known as the "Ziervogel" process, and which is too complicated and technical to be described here beyond the general statement that it involves first pulverizing the material finely in a roller or ball mill, then an oxidizing process by which copper sulphate and iron sulphate are developed, which decompose each other, leaving the silver vitriol as residuum. The silver sulphide is then leached out with water and decomposed with copper, by which the silver is precipitated, pressed, annealed, and cast into ingots of what is called "Brandsilber," of 99.9 per cent purity, in which form it passes into commerce. The residuum from this process is now dried, mixed with 8 to 9 per cent of bituminous coal, and smelted with sand in a reverberatory furnace, by which the copper oxide is reduced and the greater part of the other metallic oxides combines with the ashes of the coal and the silicic acid of the sand and is carried off as slag.

By means of these various operations, which are changed and modified to meet the varying composition of the ores under treatment, there is finally produced the ingot copper known in commerce as "Mansfelder Raffinad A" (MRA.), of which average analyses are as follows:

Description.	Per cent.	Per cent.	Per cent.
Copper	99.587	99.751	99.764
Silver	.025	.025	.027
Nickel	.24	.107	.109
Lead	.049	.034	.029
Iron	.016	.013	.014
Sulphur	Trace.	Trace.	Trace.

It will be noted that of all the foreign metals nickel is the most difficult to separate from the copper, and it therefore remains in greater proportions. The relative importance of the Mansfeld district is shown by the fact that in 1897 there was produced there 18,447 tons of copper, 95,573 kilograms (210,738 pounds) of silver, and 18,248 tons of sulphuric acid, to obtain which latter product 128 roasting kilns and 9 groups of lead-lined chambers, with a collective capacity of 49,704 cubic yards, were employed. The total revenue from the sale of these products was $11,639,649, and the total cost of production $10,995,441, leaving a net profit of $664,208. Elsewhere in Germany, there was produced from German ores 2,240 tons of copper, and the total product of that year was 29,408 tons, so that 8,721 tons were produced from imported ores, mainly of Spanish origin.

The "German process" is also employed at Brixlegg, in the Austrian Tyrol; at Kedabeg, in the Caucasus; at Atvidaberg, in Sweden; at Agorda, in the Venetian Alps; at Zips, in Upper Hungary; and at Mühlbach, in the Salzburg district of Austria. The process is the result of centuries of practical experience, and has been modified and improved to meet varying conditions until the different forms

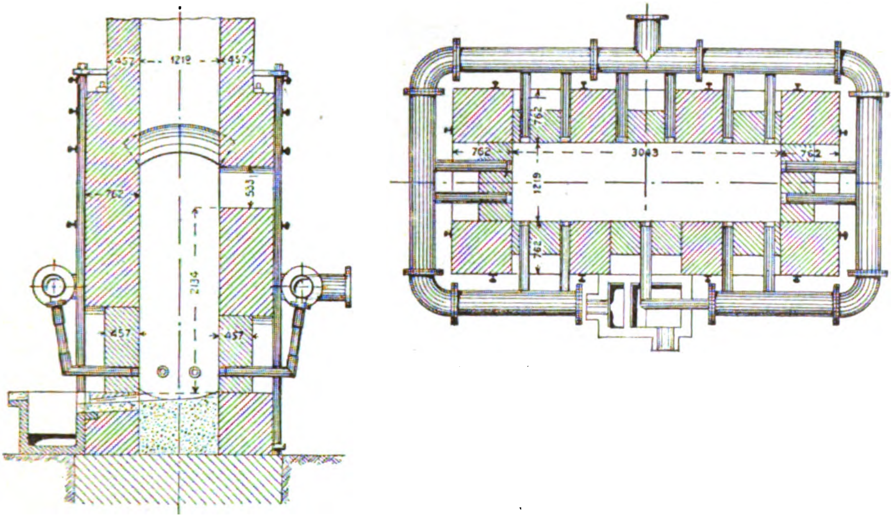


Hearth with 4 Tuyeres.

Foundation.

This furnace is 20 feet in height from base to throat, and is surmounted by an iron chimney 21 feet long. The hearth is 4½ feet in diameter and the furnace expands upward to a width of about 6 feet. With a wind blast equal to the pressure of 3½ inches of quicksilver, it smelts in twenty-four hours 20 tons of ore and fluxing material, with a consumption of 7 tons of coke.

of furnaces, kilns, and other fixtures employed are so diverse and numerous as to defy description within reasonable limits. German blast furnaces used for smelting copper ores and concentrates are of two general classes—square and round—and an idea of their construction may be derived from the subjoined drawings, the first of which shows the most modern type of furnace used at Oker, in Prussian Saxony, for smelting ores; the second shows the hearth plan and upright section of a standard smelting oven, as used in the Mansfeld district for smelting Kupferstein, or crude copper matte, in the second stage of the German reduction process. (The measurements are in millimeters, of which 1,000, or 1 meter, equals 39.37 inches, or about 300 millimeters per foot.)



Hearth section and elevation of standard square furnace used for smelting "Kupferstein," or raw matte, with recovery of sulphurous oxide for the manufacture of sulphuric acid.

II.—THE WET PROCESS.

This method of obtaining copper is employed mainly with ores which are too low in grade to be worked profitably by roasting and smelting. It can be used under favorable circumstances with ores which contain as low as one-half of 1 per cent to 1 per cent of copper, and also for reducing the cupriferous slack which remains from the production of other metals. It consists in precipitating the copper from a vitriol or chloride solution by means of scrap iron or other reagent.

The solvents principally used for this purpose in Germany are diluted sulphuric and muriatic acids. As the former is largely produced by the dry process of reducing copper, sulphuric acid is usually cheapest in the neighborhood of copper mines, and hence vitriol solutions are generally used for the wet process in this country. Muriatic acid produces a chloride solution, and in the neighborhood of works which manufacture soda from common salt by the Leblanc process it is often sufficiently cheap and plentiful to be economically used for leaching copper ores and concentrates. In order to be worked by the wet process, ores should contain copper in the form of either oxides, sulphates, or sulphurets, and upon all such minerals, including lasur and malachite, both these acids act with great energy. A special form of the wet process, known from its inventor as the "Dötch method," is practiced in Spain and to some extent in Germany with imported Rio Tinto ores, which contain copper and iron pyrites in combination with other metals and impurities. In this process, the ore is leached with a chloride-of-iron solution, which takes up the copper, leaving the iron pyrites practically intact. The copper is then precipitated from the charged solution with old iron, which, being immersed for a certain period, replaces the copper, which falls as a precipitate, and is then dried, smelted, and refined in the same manner as crude copper (Kupferstein) in the dry process. The two reactions which take place successively in leaching the ore and precipitating the copper from the solution thus obtained are stated in chemical formulas as follows:

$$(1)\ CuS+Fe_2C_{16}=2FeC_{12}+CuC_{12}+S.$$

$$(2)\ Cu_2S+Fe_2C_{16}=2FeC_{12}+CuC_{12}+S.$$

The tanks and other apparatus used for the wet process are made either of masonry or of wood which has been boiled in asphalt pitch and then lined with lead. The leaching tanks have false or grated bottoms made of fire brick or basalt. The leaching solution is pumped up repeatedly through lead pipes and poured over the top of the ore, whence it percolates downward through the mass, eating out at each passage more and more of the copper until at the end of eight or ten days it is saturated with metal and passes to the precipitating tank, where, after settling, the copper is released by the action of iron as above described, and the spent solution then regenerated and returned to perform the same service over again. By this process, it is possible to leach out copper from ores down to one-fourth of 1 per cent of the metal contained. Ores which contain lime can not be worked with muriatic solution, as the acid attacks the alkali before taking up the copper. When a chloride-of-iron solution is used in the wet process, it may be cheaply made by dissolving 120 parts of common salt in 1,000 parts of water and adding 280 parts of sulphate of iron (green vitriol). Crystals of sulphate of soda are formed, but these are removed by straining and the solution is then ready for use.

The proportion of iron required to precipitate copper from either of these solutions varies with certain peculiarities of the saturated solution itself, resulting from special characteristics of the ore under treatment. In theory, 88.8 pounds of iron should be sufficient to precipitate 100 pounds of copper from a chloride solution of copper-sulphate ore. The more salts-of-iron oxide there is present in the lye—as often happens in treating ores heavily impregnated with iron—the more iron will be required to precipitate the copper, and the proportion may be as high as 2 to 3 pounds of iron for each pound of copper. The generation of these basic salts in the lye is one of the disadvantages of the wet process, since it not only increases the requirement of iron, but endangers the purity of the copper precipitate. This product is then washed to eliminate as much as possible of the salts of iron, graphite, silicic acid, antimony, arsenic, and other impurities, after which it passes to the refining stage of the process.

The refining of "cement copper," which is the technical name for the precipitate obtained by the foregoing wet process, is accomplished as follows:

If, after washing, the precipitate remains charged with impurities, it is smelted in a puddling furnace (Flammoefen) into raw copper, and then purified. If it is reasonably pure after washing, it goes direct to the refinery as cement copper, where it is treated in the same manner as the raw copper obtained by the usual German process of roasting and smelting.

III.—THE REDUCTION AND REFINING OF COPPER BY ELECTROLYSIS.

Ever since the invention of the dynamo, electricians have endeavored to perfect methods of obtaining copper through the action of an electric current upon chemical solutions of pulverized ores, or of the concentrates produced by smelting or precipitation. Millions have been spent in such experiments, and the result is as yet so equivocal and indefinite that only an expert versed in the whole science of electro-metallurgy can discuss the subject intelligently. In Germany, the principal workers in this field have been Messrs. Siemens & Halske, the eminent electrical manufacturers of Berlin, and Dr. Carl Hoepfner, who, about 1890, invented a process for precipitating copper and other metals from chloride solutions upon metallic disks (cathodes) forming part of an electric current and revolving in a bath of such solution.

The process of Messrs. Siemens & Halske dates from September, 1886, and it was applied in an establishment in Genoa about ten years ago for the purpose of refining a matte containing 30 per cent copper, 30 per cent sulphur, and 40 per cent iron. After some months' operation, the plant was shut down, and subsequently, after certain technical difficulties had been overcome, was again started up, but with what success it is impossible to ascertain. A similar plant was erected at Stollberg, near Aix la Chapelle, but was discontinued in 1894. In June, 1890, Messrs. Siemens & Halske finished and put in operation a large plant for electrical refining of copper at their works in Martinikenfelde, near Berlin, but after a few months it was shut down or turned to the refining of other metals. The same firm has erected electrolytic copper-refining plants at Oker and at Goslar, in the Harz Mountains copper districts, which seem to have been more successful, since Fischer, in his "Technology" of 1900, says of the plant at Oker that with six machines, each working with a current generated by 7 to 8 horsepower, there is obtained a product of 500 tons of copper per annum. At Goslar, where the process of Siemens & Halske is practiced in its most modern and improved form, the daily cost of operation, including wages, cost of current, interest on value of material, wear and tear of plant, etc., for refining 1 ton of copper per day, is put at 74.90 marks ($17.82) when working with a current of 30 ampères, and 58.95 marks ($14.02) when the energy is increased to 100 ampères.

The Hoepfner process for obtaining copper and other metals directly from the ore or concentrate by electrolysis was first described in 1891. Several plants have been erected to put it in operation, all of which have been more or less unsuccessful when applied to copper. The latest of these was built at Papenberg in 1898, but no authentic account of its industrial success can be obtained. The same process was tried in America with copper-nickel matte from Sudbury, Canada, but resulted in failure, for the reason that the metals produced were spongy and below the merchantable standard of purity.

Under this process, copper ores or concentrates are pulverized and then dissolved in a chloride solution, which is treated in tanks made of wood impregnated with asphalt and lined with sheet lead. The anodes are of carbon, the cathodes of sheet copper, and they are separated in the bath by a diaphragm of cloth. The solution being decomposed by the action of the electrical current, the copper is deposited in crystals of pure metal on the cathode, while the chlorine thereby released remains in the stream of solution directed against the anode, and by combining with the protochloride forms bichloride of copper. The solution thus charged is then withdrawn from the tank, heated, and used in leaching fresh ore to obtain the original solution. The leaching process is a cycle, in which the solution is pumped up and passes through the pulverized ore again and again without addition of chemicals, and it is claimed that in working Rio Tinto ores containing 3.37 per cent copper, 91 per cent of the copper can be leached out in four hours, while only 3 per cent of the iron pyrites in the ore is dissolved. The leaching process is quickened by agitating the mixture of ore and solvent either in revolving drums or in stationary tanks by the injection of currents of air. Professor Schnabel gives the efficiency of this process at 90 pounds of copper in twenty-four hours for each horsepower converted into electrical current and passed through the precipitating circuit, but he declines to indorse the process as practically useful when applied to the refining of copper.

From all that can be learned from text-books or by inquiry through experts, Americans have very little to learn from Germany in respect to the electrolysis of copper. Whether it is due to the greater practical ingenuity of American mining engineers, or to the greater purity and richness of their ores, the refining of copper by electrolysis seems to have attained a more extensive and successful development there than in this country. The enormous demand for electrolytic copper is however a potent stimulant to producers, and many able metallurgists, backed by liberal capital, are still working at the problem.

IV.—GENERAL OBSERVATIONS.

From the foregoing sketch of the methods employed in Germany, it will be correctly inferred that the grinding of copper ores plays a comparatively subordinate part in German practice. By far the greater part of all native copper ores are reduced by the roasting and smelting process, in which they are treated in irregular lumps as they come from the mine, the larger pieces being broken by hand with hammer. When crushing and pulverizing machinery is used, either with ores or concentrates, it is of three kinds: (1) Stamp mills similar to those used in the United States; (2) roller mills, called here "Scheibemühle," in which two large, heavy wheels with broad tread are hung at the ends of a horizontal axle, revolving at its center, by which the wheels are driven round in a circular path or trough filled with ore; and (3) ball mills (Kugel-Mühle) of the Krupp pattern, in which heavy iron spheres are driven round in a concave channel which fits the contour of the spheres. Of these three, the ball mills are the most in use, especially for finely pulverizing ores or matte for electrolytical treatment.

Screening is likewise of small importance in the Harz Mountain copper district, for the reason that in the German process of reduction the size of the pieces is relatively unimportant. For the wet process, however, ores are concentrated by crushing and screening, and for this latter purpose three kinds of machines are used, namely, "Satzmaschinen," called in England "jiggers," in which large sieves with wire bottoms are moved up and down in water; (2) "Stossherde" ("vanners"), an endless moving apron, working through a swift current of water; and (3) "Rundheerde" (round buddles), in which stamped ore is washed with running water that carries off the lighter material. All these machines, which are mainly used in Germany for ores of metals other than copper, are practically identical with English models and are well known to metallurgists. Copper ores are rarely concentrated in Germany for reduction by the dry process. The word "concentrates," as used in this report, includes also the "Kupferstein," or matte, wherein the percentage of metals has been raised to several times that in the original ore by smelting and fluxing.

The value of tailings left from concentration of ores does not usually exceed 1 to 1¼ per cent of copper. When they reach this richness, they are leached until the copper is extracted down to one-half of 1 per cent or lower. In general, the wet method is only employed in Germany with ores which are of too low grade to be economically worked by the dry process, and which in America would, even at the present high price of copper, not be worked at all. The one valuable object lesson which this country has to offer would seem to be, therefore, the dry, or "German," method, which, as now practiced, is the result of centuries of experience, supplemented and perfected in recent times by all the resources of scientific technology. That it can be successfully applied to the reduction of low-grade American ores is, in the opinion of German experts, highly probable, though it would of course have to be modified in many details to meet the peculiarities of the ores and achieve the most direct and economical results. The presence or absence of a single subsidiary metal or other element in the ore might modify any stage of the process.

V.—A PRACTICAL PROPOSITION.

All this, however, is susceptible of exact preliminary demonstration. Any owner of low-grade copper mines in the United States who wishes to obtain the judgment of competent German experts as to the best method of working them, and the approximate cost of necessary plant, can do so without expense by sending to this consulate 10-pound samples of the various ores produced by the same mine, together with full and precise information on the following points:

(1) Are the ores sulphides, oxides, or carbonates?

(2) What accessory minerals, as quartz, limestone, sand, etc., are at hand?

(3) What is the average run-of-mine percentage of copper, so far as known?

(4) What is the cost of labor per day?

(5) What is the cost per ton of coke or bituminous coal?

(6) How much ore should the proposed plant work per day?
(7) Is there an abundant water supply?
(8) What is the cost per ton of scrap iron?
(9) What is the cost per ton of sulphuric and muriatic acids?

With this information, and samples of all the grades and varieties of ores which can be combined for treatment, an experienced German mining engineer will make analyses and report which method, "dry" or "wet," will be most effective; will submit estimates of the cost of a plant; and, if desired, will go to America to superintend its installation and initial workings.

FRANK H. MASON,
Consul-General.

BERLIN, *February 15, 1901.*

FRANCE.*

Replying to the inquiries contained in the Department's circular of December 17 concerning the treatment of low-grade copper ores, I have to say that very little is being done under this head in France at present, although the success attained in manipulating such ores is tending to promote the exploitation of mineral land in this country. I have addressed a number of letters to companies controlling such lands, and in almost every case have received answers indicating that the ore produced was of a very low grade, and that the owners were looking to the future to bring their property into active use. I judge, therefore, that the world-wide demand for copper and the improvements being constantly made in its treatment will be followed by a steady increase in the production of the ore in Europe. For such practical information as I have been able to obtain, I am mainly indebted to Paul Weiss, engineer of mines, who has traveled much and who has written extensively upon the subject. Mr. Weiss has been kind enough to write to me as follows, in reply to various questions:

> France and her colonies are unfortunately very poor in beds of copper—only a few unimportant mines are to be found, these employing elementary processes of treatment. On the other hand, the metallurgy of copper has attained a certain development. In the factories at Eguilles, in Dauphiné, copper ores are treated by means of the Manhés-David converter. In the factories mentioned, trials have been made and continue to be made for the perfecting of the Bessemer process, which, under the name of the Manhés-David system, has become established throughout the world.
>
> The Manhés process, fully described in my book, consists in blowing across the molten matte and refining the copper by the oxidizing action of the air, just as steel is prepared in the Bessemer cupola.
>
> Quite recently, an important improvement has been introduced. By means of a special arrangement during the blowing process, the precious metals, gold and

---

*Covering also a statement of the treatment of copper ores in Spain.

silver, have been successfully separated under form of coppery alloy; the greater part of the copper is then poor in precious metals, and it suffices to submit the concentrated matter in the bottom of the converter to electrolysis, whereas formerly it was necessary to electrolyze all the copper, in order to secure the gold and silver.

I see no other points which should be added to those developed in my work, except to add that I strongly recommend the application of the Manhès process, which is especially economical in countries where fuel is expensive.

After the United States, Spain ranks as the most important copper-producing nation in the world. The industry centers in the province of Huelva, where the quantity of ore mined annually amounts to about 1,500,000 tons, the poorer portion of which is treated in Spain, while the greater part is exported to England and Germany. The minerals extracted from the Huelva mines are distinguished as follows:

(1) Ore containing less than 3 per cent of copper, which is treated at the point of production.

(2) Mineral containing 3 to 6 per cent of copper, exported to England and Germany.

(3) Ores containing above 6 per cent of copper, manipulated at Rio Tinto.

(4) Ores containing lead and copper, unused at the present time because of the difficulties in the way of treatment by the known processes, resulting from the presence of lead.

It is the method of treatment at Huelva, in the case of ores of the first class, as described by Mr. Weiss, to which I shall mainly limit myself.

TREATMENT BY THE WET PROCESS.

The known processes of metallurgy do not permit the economical treatment of copper ore containing less than 3 or 3½ per cent of copper. To extract the copper from low-grade ores, recourse is had to the wet system, which consists in dissolving the copper in an acid or saline solution, in order to separate the sterile matter which accompanies it, and then to precipitate it to the metallic state by chemical reaction. The wet system is applied also to the treatment of various coppery products—slag, earth, etc.—carrying precious metals, which could be isolated with difficulty by a fusion. These processes have taken great extension during recent years; they have permitted the treatment of ores which had previously been neglected because of their poverty, and they produce actually about 40 per cent of the copper extracted in the entire world. As the copper forms only a small portion of the ore, it is necessary that the processes should be applied inexpensively to immense quantities of the raw material. It is impossible, therefore, to consider the transportation of the mineral to a distance; it must be treated at the place of origin with cheap reactives. The copper contained in quartz rock lends itself very well to the treatment by the wet process, because the acids have no action upon the veinstone. The calcareous ores, on the contrary, are difficult to treat, because the lime dissolves at the same time as the copper, and in consequence requires considerable quantities of reactives.

The copper is generally contained in the ores in a state of sulphur—more rarely in the state of carbonates, arseniates, or silicates. The oxidized combinations are soluble in diluted acids, such as sulphuric acid or muriatic acid. The sulphurs, on the contrary, are very slightly soluble, and must be transformed either into sulphates or chlorides before being submitted to the action of the dissolvents. The sulphatization takes place cold and is effected slowly under the action of the air; thus the waters which are drawn from the old nitrous mines are charged with metallic sulphates. More generally, the transformation of the sulphurs into sulphates is determined by an oxidizing roasting, effected either in mass or in a furnace. The transformation of the sulphurs into chlorides is also produced by roasting; but instead of permitting the oxygen alone to act upon the ores, they are mixed with chlorid of sodium, which determines the chloruration.

The sulphates or chlorated ores are submitted to a methodical washing, which removes all the salts of copper which they contain. The dissolution thus obtained is then treated by old rails, in the process of which the iron substitutes itself for the copper in the salts, and produces a precipitate of metallic copper called cement; this is subsequently refined in reverberatory furnaces.

This, in its general lines, is the method of treating copper ore by the wet process.

The ores of Rio Tinto, formed of pyrites of iron containing 2½ per cent of copper, are roasted in piles in the open air. The roasted ore is then placed in large scouring basins constructed of masonry. These basins, 30 meters (98 feet) by 10 meters (33 feet) and 59 inches deep, are supplied with a false bottom of slightly inclined planks, so perforated as to permit the liquid which filters through the mass to disappear under the false bottom, and from there through drainage sluices into the basins of cementation. The scouring is effected by water, which is renewed many times, until it contains no trace of copper. The residue of the scouring is mixed with small ore and piled in heaps 3 to 4 meters (9.8 to 13 feet) high, through which apertures are made for the circulation of air. Under the influence of atmospheric agents, the mass becomes warm, the sulphurates and oxides during the first roasting become transformed into sulphates, and at the end of six to eight weeks the mass is subjected to a second scouring. The residue is again exposed to the air and scoured, and so on during a period of two years. At the end of this time the ores are exhausted, and contain but the slightest traces of copper. At Rio Tinto and Tharsis, 500,000 tons of ore are constantly in treatment. Heaps of stock are being roasted; the basins are ranged in an orderly manner and are connected by rail.

The liquor charged with sulphate of copper is drawn into a series of canals in masonry 600 meters (656 yards) long, at the bottom of which are placed bars of pig iron and old rails, which precipitate the copper to a state of cement. After leaving the canals, the liquor, which contains then only a few grams of copper per cubic meter, is returned with the aid of pumps to the scouring basins, where it again serves as a dissolvent.

The copper cement obtained is very impure, its average composition being as follows:

	Per cent.
Copper	51.9
Silver	2.35
Lead	1.45
Bismuth	4.95
Iron	7
Antimony	.5
Arsenic	2.25
Sulphur	5.1
Lime	.6
Chloride of sodium	.4
Sulphate of soda	1.4
Sand	5
Loss by fire and otherwise	16

To eliminate the arsenic, the resultant is roasted in a reverberatory furnace, and the product is in that state sent to English and German mills, which, by special processes, extract the silver remaining.

The consumption of pig iron is about 1,700 kilograms (3,740 pounds) per ton of copper. To avoid the expense which results from this, efforts have been made at Rio Tinto to precipitate by sulphureted hydrogen, produced by passing a mixture of water and sulphurous acid over red-hot coke; this process has not given satisfactory results, as the sulphate of copper obtained was too impure.

The process of sulphatization of the ores has been partially replaced by the Doetsch system, which substitutes for the roasting a chloride reaction, based upon the action of chloride ferrique* upon the sulphurate of copper. At contact of the chloride ferrique, the sulphurate of copper is transformed into chlorides, while the sulphureted iron is not attacked. The chloride ferrique separates the copper from its envelope without dissolving the iron. The liquor containing the chloride of copper is then treated by iron, which precipitates the copper cement.

---

*Note by Consul.—I have made use of the terms "ferreux" and "ferrique," "cuivreux," and "cuivrique" without translation. The termination "eux" following the French word for iron or copper indicates in each case the presence of a small quantity of oxygen. The termination "ique" indicates the presence of a considerably greater quantity of oxygen than in either "ferreux" or "cuivreux."

The solution of chloride ferrique is obtained by dissolving marine salt in sulphate ferrique; sulphate of soda and chlorides ferrique are thus formed.

To apply the Doetsch process, a commencement is made by crushing the ore in fragments of less than 1 centimeter (0.39 inch), which is then mixed with 2 per cent of marine salt and ferrique, the whole being then heaped in piles 4 meters (13 feet) high by 15 meters (48 feet) long and 15 meters wide. Horizontal canals and vertical chimneys are supplied for the circulation of air and water. Upon the summit of the pile a platform is constructed, from which water is distributed uniformly throughout the mass. The water filtering through the ore dissolves the salt and sulphate of iron, which react upon each other, thus producing chloride; the chlorurated solution attacks the sulphurate of copper and is drained by the horizontal canals into the basins, where it is precipitated in the form of cement by means of pig iron and old rails. The consumption of iron is about 1,100 kilograms (2,420 pounds) per 1 ton of copper. The cement holds from 80 to 85 per cent of copper.

The waters from the cement contain chloride ferreux, and in order that it may be used again, for scouring, it is essential to regenerate the chloride ferrique. For this purpose, the water is raised by means of pumps, lined with hard rubber, and passes into a tower filled with fragments of coke, through which a current of chlorine ascends, which is produced by the action in reverberating furnaces of chloride of sodium upon sulphate of iron in the presence of excess of oxygen.

The chloride transforms the chloride ferreux into chloride ferrique, which is thereupon again employed for the scouring.

The scouring operation lasts about two years; at the end of this time, there remains but one-half of 1 per cent of copper in the ore. The Doetsch process has the great advantage of suppressing the fumes of sulphurous acid, which formerly denuded the country about Rio Tinto. It diminishes much of the expense of the iron necessary for the cementation and consumes only marine salt and sulphate of iron, both of which are procured easily and cheaply.

According to Mr. Cumenge, the expense of manufacture of copper of cement per ton is as follows:

Dissolution	$16.04
Cementation	34.93
Miscellaneous expenses	5.40
Total	56.37

The Hunt & Douglass process has been recently applied in a number of works, and consists in treating the roasted ores by a solution of chloride ferreux, which acts upon the oxide of copper and gives forth oxide ferrique and chloride of copper.

The resultant, charged with copper, passes over lumps of copper, which transform the chloride cuivreux into chloride cuivrique, then upon iron, which precipitates the metallic copper in regenerating the original chloride ferrique.

The method requires that the copper contained in the ore should be in an oxide state. It is then necessary to roast the sulphureted ore in such a manner as to transform the sulphurates into oxides. This roasting is very delicate. If the temperature is increased too much, the oxide of copper formed is no longer vulnerable to the chloride ferrique; if, on the contrary, the roasting is insufficient, the ores contain too many sulphates, and reqnire large quantities of iron for the precipitation of the copper. The dissolution is brought about by mixing marine salt and sulphate ferreux and warming the mixture to 70° C. Per cubic meter of water, 120 kilograms (264 pounds) of salt and 280 kilograms (616 pounds) of sulphate are required.

The roasted ore is reduced to powder, then submitted to the action of the solution of chloride ferreux during three or four days in large wooden casks. The liquor, loaded with copper, is then drawn into basins, where it comes into contact with old rails. The precipitation of copper of cement is not awaited until the process is complete, because the solution serves for the scouring of new ore, and by prolonged contact with the ore would charge itself with insoluble basic salts, which would mix with the copper of cement. It is impossible, however, to always completely prevent the formation of oxychloride of iron, which causes a loss in the solution of about 6 per cent of chlorine. To replace this loss of chlorine, an excess of marine salt is added to the solution.

The great advantage of this method is the relatively small quantity of iron necessary to the precipitation of the copper. Theoretically, one atom of iron substitutes itself for two atoms of copper. The consumption of iron per ton of copper should be, therefore, 440.16 kilograms (968 pounds); in practice, it is about 700 kilograms (1,540 pounds).

The Hunt & Douglass process lends itself to the extraction of the silver contained in the ores. The chloride cuivrique, formed by the action of the chloride ferreux, attacks the silver and the sulphurate of silver, giving chloride of silver, which dissolves itself in the liquor inclosing the marine salt.

THE PIERRE MANHÉS SYSTEM.

The methods of manufacturing black copper commonly employed require so many operations and such heavy expense for labor and fuel that of late years the industry has not been carried on, except in countries where coal or wood is cheap. Many attempts have been made to remedy this condition; furnaces have been enlarged, the products of the roasting have been utilized, but the consumption of fuel has been diminished only a little and continues to be from 15 to 18 tons per ton of copper produced. The only notable progress realized in the manufacture of copper has been due to the application of the Bessemer retort in the treatment of copper slag.

The Bessemer process consists in blowing air under strong pressure across the molten metal. In traversing the liquid mass, the oxygen of the air burns the divers impurities and refines the metal. A metallurgist of Lyons, Pierre Manhés, has succeeded after many failures in employing the same method in purifying the matte.

His invention, referred to in the letter from Mr. Weiss as having since been improved, has been very successful in French metallurgy, and in the manufacture of copper will play a rôle as important as the Bessemer process in that of steel.

The analogies between these two industries are very great. In the same manner as in the blast furnaces, the ore is reduced to molten form, a combination of iron and carbon, so the copper ore is transformed by a simple fusion, the cast consisting of sulphurate formed of copper, of iron, and of sulphur. In both operations, the metals are separated from their envelopes and the principal products obtained are similar; in one case it is the carbure and "siliciure" of iron and of manganese and in the other a sulphurate of iron and of copper. By the simple action of the air, the silicium, the manganese, and the carbon are eliminated during the Bessemer process; in the same way the sulphur and iron are eliminated from the copper matte, both being more oxidizable than the copper. But the difficulties encountered in the treatment of the mattes are very much greater than those of the treatment of steel, where the elements requiring to be oxidized do not exceed 9 to 10 per cent of the weight of the metal. The copper matte, on the other hand, contains in general only 20 per cent of copper; it is therefore necessary to remove by oxidization 80 per cent of the matter treated. The foreign elements in the cast of iron, silicium, and carbon develop a considerable quantity of heat in burning—the first 7,800 calores, the second 8,000 calores—which considerably raises the temperature of the metallic bath and prevents all danger of chilling from the action of the air. The sulphur of iron, on the contrary, produces only 2,200 calores and 1,500 calores; because of this, the first efforts made in England by

Mr. Holway to treat copper mattes in the Bessemer converter ended in complete failure; the mattes became solidified before being refined. Mr. Manhés was not discouraged by the nonsuccess of the English metallurgist, and made numerous tests in a copper mill at Védènes, Vaucluse, and then in the mill at Eguilles, near Avignon. He supplied himself with a small retort with a capacity of 50 kilograms (110 pounds), after the fashion of the ordinary Bessemer apparatus, with an air chamber at the base and vertical blast pipes ejecting air from the bowl in the metallic bath.

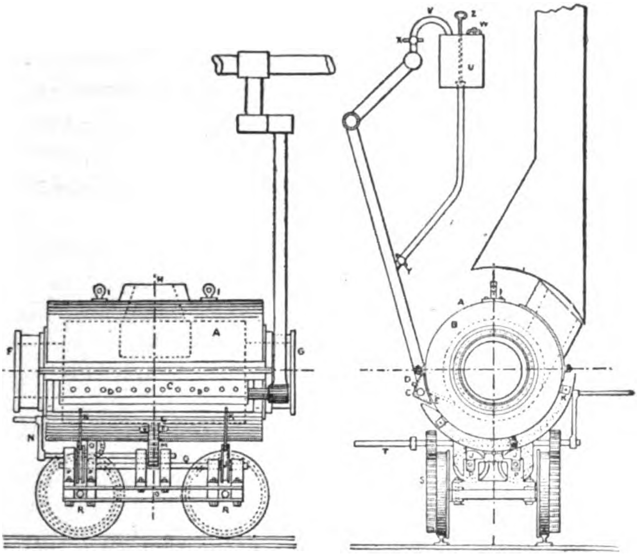
The matte containing 25 to 30 per cent of copper was melted in a little furnace, and the liquid was paid into the retort. The air blown across the matte rapidly oxidized the sulphur and the iron; the sulphur escaped in the shape of sulphurous acid, the iron formed with the potter's clay facing the retort producing a fluid dross. In the beginning, the operation proceeded well; the combustion of the sulphur and iron sufficed to maintain the fluidity of the metallic bath and of the ferruginous dross, but little by little the matte became less liquid, and the draft of air produced a tumultuous evolution and projection of the dross outside of the apparatus. The copper settled in the bottom of the retort and congealed in the blow pipes, greatly obstructing them. The operation was stopped before the matte was completely freed from its iron and its sulphur.

Mr. Manhés then substituted in the place of the vertical blow pipes other pipes injecting the air into the bath at a certain distance above the bottom of the retort. The air chamber at the base was replaced by a hollow circular crown, enveloping the retort at some centimeters from the bottom, and provided with lateral orifices injecting the air horizontally into the metallic bath.

In the apparatus thus modified, the copper no longer congealed, and as it was produced dropped below the point where the air entered and there remained in a liquid state. The dross continued to be an embarrassment; it was necessary to melt it partially before the end of the operation, and even, when the matte was poor, to perform the operation twice, because the matte, as it became richer in pure copper, became heavier and reached the bottom of the converter, where it was no longer exposed to the oxidizing action of the air. It thus escaped from treatment, and the copper it inclosed could not be obtained; under these circumstances, it was necessary to melt the matte enriched to 60 per cent to separate it from the dross, and finish the operation in a retort newly lined; the resultant copper contained from 1½ to 2 per cent of foreign matter.

Mr. Manhés has succeeded in suppressing these inconveniences, by using a cylindrical converter on horizontal axes, which is turned by means of a crank with cogged gearing. The converter is supplied with a longitudinal air chamber. By means of this apparatus, it is possible to treat poor mattes in a single operation; it suffices to incline the apparatus more or less to bring the air to a determined point; the blast is placed at the level required for the matter to be treated.

The retort, already red-hot, receives a charge of 1,000 kilograms (2,200 pounds) of liquid matte, across which the air is blown under a pressure of 25 to 30 centimeters of mercury, by placing the openings of the air chamber a little above the level of the matte; the temperature increases rapidly, and heavy yellow vapors arise from the molten mass. These are received in a sheath, which communicates with a large chimney 150 feet tall. As the operation advances, the cylinder is turned in such a manner that the air falls constantly on the matte and not on the dross, which floats above. After fifteen or twenty minutes of blowing, the fumes diminish and become green, then disappear altogether. The dross is then rapidly drawn upon the floor of the manufactory, after which the copper is drawn into the molds. The dross contains ordinarily from 2 to 3 per cent of copper in the form of nuggets. It is not therefore a real waste product, as it is mixed with fresh ore and returned to the furnace.



THE MANHÉS CONVERTER.

The raw copper obtained from the converter has the following constant composition:

Copper	98.5 to 98.8
Sulphur	.9 to .8
Iron	.6 to .4

It is possible to effect about twenty operations in the same retort, after which the lining must be renewed. The Manhés process permits the treatment not only of pure matte, but also of mattes containing arsenic, antimony, and lead; all these elements being reduced to volatile form at the same time as the iron and the sulphur; it is even possible to place in the converter, either alone or mixed with mattes, old bronzes and old brasses. Zinc, tin, and lead become oxidized easily; nickel and bismuth resist the action of the air and become concentrated in the copper. Until now, the Manhés process has been insufficient for the treatment of the two bodies named, while the elimination of arsenic and antimony, which created so many difficulties in the reverberating fusions, is easily controlled; these two metalloids disappear almost entirely and are probably thrown off mechanically by the air.

The total consumption of coal is about 5 tons per ton of merchantable copper; while for ore of the same value treated by the English method, it would be about 15 tons. The expense of manufacture does not exceed, at the Eguilles mills, 150 francs ($28.95) per ton of copper, in spite of the miscellaneous costs and the high price of coke, while the expense of the treatment of copper by the reverberating process at Swansea amounts to $67.55.

In short, the Manhés process simplifies the metallurgy of copper and makes it more economical; instead of six or eight costly operations, the treatment is limited to a single casting to produce the matte, after which comes directly the work of the converter, from which is obtained a purer metal than the ordinary black copper. The process is in use in several localities of the United States, Chile, and in Spain, and gives the best results.

THE FORMATION OF COPPER DEPOSITS.

It may be interesting in this connection to call attention to the differences of opinion between the English and German geologists on the one side and the French geologists on the other concerning the cause of the formation of copper deposits.

The English and German theory is that the formation of copper ore is due to the dissolution by superficial waters of the metal contained in rocks, this water circulating through the fractures of the crust of the earth and depositing therein its metallic elements.

The French geologists, on the contrary, basing their theory upon the study of modern eruptions, take quite a different ground. They are disposed to believe that at different periods, the eruption of rocks in fusion has caused the deposit of the elements which have resulted in the basins of metal now exploited. Because of the manner of their formation, the deposits of copper are classed by them in three distinct categories:

(1) Beds in contact with eruptive rocks, formed by the deposit of eruptive fumerolles, either in the fissures of the rocks themselves or in the fissures of the surrounding earth.

(2) Lode deposits formed by the circulation of waters charged with mineralizing principles in the fissures of the earth and in the permeable geological strata.

(3) The sedimentary beds, formed like sandstone and limestone, by a muddy deposit in the bottom of inland seas, receiving waters containing metallic principles.

ROBERT P. SKINNER,
Consul.

MARSEILLES, *January 24, 1901.*

ENGLAND.

FALMOUTH.

In answer to Department circular, I employed an expert to report on the subject, as I have no technical knowledge of these matters. This gentleman has accordingly reported to me as follows:

The following information applies to copper ores as at present treated in the County of Cornwall only.

The ore is first passed over screens having bars 2 inches apart. The coarse or larger size ore goes through Cornish rolls, and in some cases the Blaker crusher is used for preliminary crushing.

The copper at present produced in Cornwall is almost entirely a side product in mines worked for tin and arsenic, and in some cases wolfram. Sizing and concentration of copper ores are not extensively carried on. Trommels and jiggers are used, but more generally the larger lumps of copper ore are hand picked. The smaller particles are usually so intimately associated with cassiterite and mispickel that it is found better to send the finer mixed ore to the stamps as "tin stuff." The first concentration, which is done in the "round buddle" or "vanner," raises the tin contents from about 2 per cent to 10 or 15 per cent.

The concentrates are then passed on to a Brunton calciner, where copper sulphate and oxide are formed. The ore is again concentrated in the buddle, during which operation the copper sulphate is leached out, and the solution conducted away to storage tanks. In some experimental cases, dilute acid has been used, and other methods which have not yet been published. The residue from the tin concentration contains generally 2 per cent and upward of copper as copper oxide, and is sold to smelters without further treatment. The solution of copper sulphate is conveyed into suitable storage tanks and is drawn off as required to the precipitating tanks, where scrap iron is used as the reagent. The storage and precipitating tanks are built of cement or concrete. Wood launders are used for conducting the solutions from place to place, and in some places lead pipes.

HOWARD FOX,
Consul.

FALMOUTH, *February 19, 1901.*

LIVERPOOL.

No copper is mined in the Liverpool consular district, and very little in the British Isles. There is, however, a very considerable quantity of copper manufactured at St. Helen's, Widnes, Runcorn, and Garston, from ores and copper mattes obtained from abroad. The largest quantity is extracted from ore obtained from the province of Huelva, Spain, which ore contains some 50 per cent of sulphur and about 2.75 per cent of copper on the dry assay, the balance being chiefly iron. In the districts named, upward of 200,000 tons of pyrites are treated per annum, and the following is, roughly speaking, the method adopted:

The ore is broken up by hand or mechanical stone breakers into pieces about the size of 1-inch cubes; in this condition it is introduced into kilns called pyrites burners, where the sulphur is burned off and the sulphur fumes, mixed with nitrous oxide, are conducted into leaden chambers, where they are condensed in the form of sulphuric acid. This is the well-known process of sulphuric-acid making. The burned pyrites containing the copper and iron are then mixed with a certain proportion of rock salt and ground between rollers on edge runners made of cast iron; the ore and salt are thus reduced to a powder, which will pass through a sieve of 50 meshes to the square inch. The mixture of ore and salt is then introduced into a furnace or oven, where it is calcined at a dull-red heat, a soluble chloride of copper being formed. After calcination, the mixture is put into vats, and the soluble copper washed out with water and hydrochloric acid, the iron left (called locally "blue billy") being sold to iron works and made by them into pig iron. The solution of chloride of copper is first desilverized by the well-known Claudet process, and then the copper is precipitated with iron (light wrought scrap iron being generally used) in the well-known manner. The copper precipitate, which contains about 80 per cent of copper, is collected and refined by smelting. The vats used for leaching and precipitating are generally made of timber, the planks being bolted together in such a way as to be quite water-tight. No machinery is used to agitate the ore in the vats, as it is not necessary. Lead piping and wooden chutes are chiefly used for conveying the solutions.

In addition to the Spanish pyrites, other copper ores are used in the district, such as quebrada zibiola, and a good deal of copper is refined from Chile and Urmenita bars, and various descriptions of copper matte. These are refined by smelting, and, in some cases, the final refining is done electrolytically, but no costs can be obtained.

W. J. Sulis,
Vice and Deputy Consul.

Liverpool, *February 6, 1901.*

NORWAY.

CHRISTIANIA.

The coarse crushing of copper ore is done by hand with sledges and with ore breakers of different construction, the so-called "tuggers" being commonly used.

The fine crushing of the ore is accomplished by powerful mills, provided with rollers 2 feet or more in diameter. At some mines, the ore is sorted as to size on sliding tables by boys or old men after it has gone through the coarse-crushing process. Stampers were formerly used, but are now generally discontinued.

For screening clean ore, revolving drums of conical or cylindrical form are used, provided with screens with meshes of from 13 millimeters down to 1 millimeter (0.512 to 0.0394 inch) in size. For screening tailings or slimes, pyramidal settling tanks are used.

For concentrating clean ore, coarse and fine, jigs—often the make known as the "Hartzarjigs"—are employed. These are generally constructed in three or four divisions, and are about 3 feet in length. For concentrating tailings, buddles are used; the "Linkenbachs hærder" (tables) and the "Stein-Lührigs Plannenherde" are considered the best.

The method prevailing at all Norwegian copper mines is to melt the ore in water jackets and to run the concentrated matte direct into receivers for bessemering under the new process, the so-called Manhés system.

As will be observed from the foregoing, the chemical, or wet method, is not in use.

Copper pyrites, largely mixed with iron pyrites, and magnetic pyrites, are the ores oftenest appearing in Norway. The assay value of concentrates varies very much. Clean ore generally holds from 2 to 6 per cent copper and 35 to 44 per cent sulphur; tailings, from 3 to 4 per cent copper. The ore at the Aamdal mine in Telemarken is claimed to hold as high as 20 per cent copper.

A large portion of the pyrites is exported in a crude state, the country having no sulphur refineries.

Electric power is used in many of the mines. Some rich deposits have of late been discovered in Nordland, northern Norway. The Government, as well as private parties, have repeatedly sent experts in mineralogy and mining abroad to study the different systems of treating ore, and it may reasonably be assumed that the methods now adopted are the best under prevailing conditions.

HENRY BORDEWICH,
Consul-General.

CHRISTIANIA, *February 26, 1901.*

BERGEN.

The following methods of treating ore are employed in Norwegian copper mines:

For coarse crushing, lithontriptors of Blake's system are largely used. For the comminution, rolling mills are used, the usual diameter of rollers being 630 millimeters (24.8 inches); width, 250 millimeters (9.84 inches); velocity, 50 to 70 revolutions per minute. The matter from the lithontriptors goes directly onto the rollers.

For classification, conical seam pressers (rollers) of lengths of 1,600 millimeters and 1,400 millimeters (63 and 55.12 inches) are used at the Kongens and Mug mines; largest opening, 750 millimeters and 600 millimeters (29.5 and 23.6 inches); velocity, 14 to 16 revolutions per minute; the widths of mesh being 5 millimeters, 3 millimeters, 2 millimeters, and 1 millimeter.

At the Storvarts mine, sloping cylindrical seam pressers (rollers) of mesh widths of 10 millimeters, 5 millimeters, 3 millimeters, 2 millimeters, and 1 millimeter (0.394, 0.197, 0.118, 0.0788, and 0.0394 inch) are used.

For washing small ore, sifting machines are used. Those of the Kongens mine have three compartments of a length of 3 meters (9.84 feet) and a height of 1.2 meters (4 feet), and those of the Mug and Storvarts mines four compartments of a length of 4 meters (13.13 feet), and height 1.2 meters (4 feet).

Leaching and electrolytic processes are not used.

.These mines are owned and worked by the Norwegian Government.

VICTOR E. NELSON,
Consul.

BERGEN, *March 23, 1901.*

SPAIN.

HUELVA.

The present or modern method of treating the now well-known cupreous iron pyrites in the province of Huelva is as follows:

The mineral extracted from the mines is broken down to "road metal," or furnace-size ore—that is, varying from three-fourths of an inch to 2½ inches. The breaking is done by hand in most of the small mines, this being considered the most economical and effective way of breaking the ore to get a comparatively even size, with fewer smalls, which are a detriment to the sale of the residues.

In the large mines, all the mineral is broken by an ordinary stone crusher. The "rubble ore" thus produced is carefully spread out in an open place, spaces being left in the body of the mineral for "ventilation shafts," and also sewers on the ground running through the pile, which, as a rule, is laid on ground with a slight declivity.

The surface of the mass is formed into squares and canals, and water is passed through the latter; the object of this formation is to permit the water to be turned on to any part of the mineral. It is usual to thoroughly wash one portion, and then turn the water on another part of the heap, leaving the first to ferment, heat being produced by the presence of water and chemical action going on in the sulphuration of the sulphides of iron. The lack of a heavy rainfall in this district, except in the winter, obliges mines of any importance to provide large reservoirs for this process.

The sulphates of copper proceeding from the mineral are collected on lower ground, below the heaps, and are turned into a long series of narrow canals. These canals are also made on a slight gradient, so that the cupreous liquors passing through them shall have a fair speed. They are made of wood, about 3 feet wide by 1½ feet deep, the length depending on the quantity and quality of liquors to be treated. Pig iron is laid transversely at the bottom of the canals, being exposed as much as possible to the action of the liquor passing. Scrap iron is frequently used in the small mines.

Precipitate of copper produced by this treatment varies in quality according to circumstances, the best classes having 97 per cent and the inferior 60 per cent of copper. No acids are used, but only the pure water. The mineral thus treated is the ordinary iron pyrite of this district, the richer pyrites being exported.

From the foregoing details, it will be seen that an almost entirely new system is practiced with the best and most economical results as compared with the previous method of "artificial leaching," by which the ore, built in piles, was burned, the smoke destroying all vegetation within a radius of 12 miles, thus involving heavy expense in indemnities to proprietors of adjacent property.

The leaching system has been carried out on a very large scale in the Rio Tinto mines, but it is gradually being discontinued and soon will be done away with altogether.

A recent book, A Century of Copper, published by E. Wilson, Royal Exchange, London, gives a very complete history of the treatment of copper, especially of the copper mines in this province. I may add that the foregoing statements have been obtained from practical men engaged in the work, and the information is reliable.

W. J. ALCOCK,
Acting Consular Agent.

HUELVA, *February 27, 1901.*

DESCRIPTION OF THE MINING INDUSTRY OF HUELVA PROVINCE.

Consul Carroll, of Cadiz, under date of February 27, 1901, sends the following copy of a report made by the consular agent at Huelva in 1895, which contains information in regard to the mineral deposits in the province:

The province of Huelva constitutes one of the most important mining districts of Spain. Its numerous mineral deposits were undoubtedly worked in ancient times by the Phœnicians and Romans, as is proved by the enormous heaps of slag found in close proximity to the mines and by the tools found in the old workings, such as stone and iron hammers. It would seem that the ancients devoted their attention mainly to the extraction of the richer portion of the lodes. There is no doubt that the rapid strides made in this province are almost entirely due to the successful development in late years of these immense mineral deposits. The port of Huelva has risen in a few years from an insignificant fishing village to an important commercial center, ranking fourth among the ports of the nation.

MINING ZONES.

The great central mining zone extends from the province of Seville, west of the River Guadalquivir, having for its limit in that direction the Aznalcollar and Castillo de los Guardias mines, and continues westward through the province of Huelva to the Portuguese coast, embracing a length of about 240 kilometers (149 miles) and an average width of 25 kilometers (15.5 miles). To the north and south of this central zone are many other mines of less importance.

CLASS OF MINES.

The principal deposits of the province consist of cupreous iron pyrites, and the largest masses are those called "Rio Tinto," "Tharsis," "La Zarza," "Sotiel Coronada," "Lagunazo," "San Miguel," and "Confesionarios." There are also deposits of manganese ores in close proximity to the cupreous iron pyrites deposits, and small silver-lead and antimony lodes, but these latter have not so far been developed.

CUPREOUS IRON PYRITES DEPOSITS.

In order to illustrate the general character of the ore found in those deposits and the modus operandi of the different companies—which, it may be stated, is much the same at all the mines—special reference may be had to a few of the principal ones:

RIO TINTO MINES.

These were formerly the property of the Spanish Government. For the last ten years in which it worked them—viz, from 1863 to 1872—the production was 640,337 tons of mineral, extracted and treated, and 10,193 tons of fine copper. In 1870, these mines were purchased by a London firm. A narrow-gauge railway was built connecting the mines with the port of Huelva, a distance of 84 kilometers (54 miles), and a spacious pier constructed, facilitating the operations of loading and discharging.

The following analysis of ore exported from the Rio Tinto mines will give a fair idea of most of the ore contained in the deposits:

	Per cent.
Copper	3.42
Sulphur	48
Iron	40.74
Silica	5.67

	Per cent.
Lead	0.82
Arsenic	.21
Lime	.21
Magnesia	.08
Oxygen	.09
Moisture	.76

Mode of treatment.—The ore is divided into three groups, or classes. By far the greatest proportion of the ore is not suitable for export, owing to its low copper contents. This class is all reserved for treatment at the mines. The next, a richer class, containing 2 to 4 per cent of copper, is the export ore, and the third group is made up of very rich ore, containing 6 per cent and upward of copper, which is smelted for matte. The poorest ores are first calcined in the open air, although of late years most of the companies have abolished this system and treat the ores raw in piles of 300 to 400 tons, these piles being allowed to burn for six or seven months. The sulphur is burnt off, the piles are pulled down, and part of the burnt ore is dumped on the general heaps and part into tanks, to be washed with water. For the cementation of the copper liquors which result from this washing, pig and scrap iron is used. The precipitate of copper thus obtained contains on an average 60 to 70 per cent of copper, and is exported. The matte obtained by the smelting process is also exported to England.

THARSIS MINES.

The Tharsis Sulphur and Copper Company, Limited, was formed twenty-seven years ago, and acquired the Tharsis and La Zarza mines; the company also quite recently acquired the Lagunazo property.

From the following analysis, it will be seen that the character of the ore is much the same as that of the Rio Tinto mines:

	Per cent.
Copper	3.73
Sulphur	47.43
Iron	41.3
Silica	3.68
Lead	.58
Arsenic	.33
Lime	.67
Magnesia	.1
Oxygen	.44
Silver	.01
Cobalt	.06
Antimony	.14
Sulphuric acid	1.4
Organic matter	.13
Total	100

Mode of treatment.—The company treats poor ores in the same way as is done at Rio Tinto, but of late it has abolished the system of calcination in the open air, treating the ores in their raw state, which appears to give satisfactory results, as, although the ore does not sulphurize as readily, and consequently does not give off its copper contents as quickly as when the ore is calcined, yet it has been found that by first passing water over the burnt heaps, mixed with a proportion of small crude ore, the liquors are purified and consume less pig iron in precipitation, owing to the absence of iron salts. An additional advantage is that the sulphur is preserved in the ore and may be utilized at some future time, instead of being thrown off by open-air calcination. The consumption of pig iron is from 1½ to 2 tons per 1 ton of fine copper produced.

Manganese Deposits.

The deposits next in importance to the pyrites are those of manganese, which began to be worked on a large scale about the middle of the present century, since which time this branch of mining industry has passed through alternate periods of prosperity and depression. The climax of its prosperity was reached in 1867, when a total of 41,000 tons was exported through the port of Huelva and different shipping places on the Guadiana. At that time, this class of mineral was principally consumed in the chemical manufactories in Europe. In 1874, owing to the Weldon process being introduced in chemical works, it seemed as though this branch of mining had come to an end. In 1878, however, steel manufacturers began to use this mineral; but instead of buying the ore on the basis of its contents in peroxide, as the chemical manufacturers had done, they required the price to be fixed according to the contents in metallic manganese. The demand infused new life into the business for a time, but the steel makers soon began to object to the high percentage of silica in the ore, and the price accordingly gradually decreased. Besides, deposits of manganese of a better class were discovered in the Caucasus and elsewhere, so that it is hardly possible to work the deposits of this province any longer.

GIJON.

There are no copper mines working in this province of Asturias; the only shipments of this ore—275 tons through the port of Gijon in 1900—came from the "Rio Negro Mines, Limited," Riello, Leon, Castile. From engineers who have visited the Rio Negro mines, it appears the copper ore is of a low grade, estimated from 5 to 8 per cent, containing gold in small quantities, and is treated by the dry system only. They have "Blake's" pulverizers and circular crushers, with sieves of different meshes and endless circulating buckets to return the mineral that does not pass through the meshes to the pulverizers; there is a set of jigs for the granular mineral, and "Wilfley's" tables for the powder.

The part of the mineral which contains gold passes into the "Huntington" system of mills to be pulverized and amalgamated; the whole is put in motion by a wheel ("Pelton's" system), which is worked by a waterfall of 35 liters per second, the water being carried to the wheel by a pipe, and falling from a height of 110 meters (361 feet).

It will be observed that American machinery is used at these mines.

William Penlington,
Consular Agent.

Gijon, *April 22, 1901.*

AUSTRIA.

The treatment of copper ore in Austria is still conducted on rather antiquated lines, and the output is small, the entire production for Austria-Hungary and Bosnia averaging some 1,300 tons annually. In 1890, the production amounted to 1,267 tons, of which 314 tons were exported. There were imported in that year 8,878 tons of copper, and the consumption reached 9,831 tons. In 1899, 1,261 tons of copper were produced, 534 tons exported, 17,455 tons imported, and 16,921 tons consumed. This was a decrease in consumption from the previous year of some 1,700 tons. But the first half of the year 1900 shows an increase in consumption of about 1,500 tons in this Monarchy, and, indeed, a marked increase in the amount of copper consumed must be recorded for this period in all countries of Europe. It seems probable that this increase will continue, on account of the rapid development of the electric industry. Besides, the high price of copper during this time caused purchasers to put off buying as long as possible, so that the demand is sure to continue lively. The large amounts coming from the United States during the same period found ready sale, and the call for quick supplies for electric conductors was difficult to meet.

Compared with the consumption of copper in this Monarchy, its mining industry is very inadequate. Of the half dozen copper mines in the entire country, those of Brixlegg, in the Tyrol, and Witkowitz, in Moravia, are the most important. At the latter, the electrolytic process of leaching is used, but particulars of the method are not obtainable, being strictly guarded. However, the residues of burnt pyrites, and not of copper ore, are treated there. Iron is used for precipitation, and when this is not procurable, hydrothianic acid is employed, as also watery solutions of metallic sulphide. Milk of lime is used in case of copper chloride.

To treat the ore most economically and avoid loss in the dressing, it is concentrated first by crushing machines, then by rolling mills, and finally by stamping mills. The screening is done throughout by means of conical sieve drums, the concentration to three-fourths of a millimeter (0.0297 inch) being achieved by means of jigging machines, and what is under this size being treated in buddle frames of varying construction. The assay value of the concentrated ore is 14 to 15 per cent of copper.

The ore of the mines at Kitzbichl, Tyrol, and Mitterberg, Salzburg, is pyritic and chalopyritic, containing 1½ to 2½ per cent of copper. The dressing plants of both these mines are very economical. The ore is first roughly bucked, then crushed and hand picked, by which operation the material is divided into smelting ore, washing ore, and deads. The washing ore is treated first in rough rollers, then screened by means of sieve drums. Each size of grain is jigged in a continuous jigger. The kimpings are put into fine rollers, and the product obtained is added to the fine grain gained from the rough rollers. This is all again screened in sieve drums and then treated in jigging machines. The kimpings of this operation go into stamp mills, to be reduced to the size of 1 millimeter (0.0394 inch). The stamped material is conducted through a pointed Rittinger pipe and the resulting first sorts jigged in a fine jigging apparatus. The ore meal and pulp are concentrated by means of a Salzburg or Rittinger sweep table, while the clear ore is separated and the middle product returned.

The reduction of the copper is made by the smelting process, and the method at the mine in Brixlegg, Tyrol, is as follows:

Copper ore of 15 per cent and free of silver is, in part, roasted in heaps and, in part, crudely smelted. The roasting in heaps, the fumes from which are deleterious to vegetation in the surrounding region, has been to some extent of late replaced by continuous reverberatory furnaces. On account of the presence of 27 per cent of silicic acid in this ore (which is 25 per cent roasted and 75 per cent crude), it is mixed with lime and slag and then smelted in Pilz furnaces. These furnaces are about 24 feet high, nearly 6 feet in diameter at the top, and 4½ feet in diameter at the blast level, while the basin of reception is provided with water boxes made of cast iron. The wind pressure is from 20 to 22 millimeters (0.78 to 0.86 inch) of mercury. In twenty-four hours, 12 tons are screened at a consumption of coke to the amount of 35 per cent of the weight of the ore. The matte obtained contains 35 per cent of copper. The slags, which contain 0.15 to 0.4 per cent of copper, are in part discarded, in part employed as alloy in the manufacture of black or blistered copper. The matte is then granulated and roasted dead in reverberatory furnaces. These roasting furnaces are continuous, and are heated by means of turf gas. Such a furnace holds in all 3 tons of the matte, which amount, at a consumption of 4.6 cubic feet of turf, is in twenty-four hours roasted dead to 220 pounds of roasted material. This is now smelted with an admixture of 15 per cent crude slag and 15 per cent quartz into black or blistered copper. The shaft furnaces are two-pitted, so-called spectacle furnaces. The fuel used is a mixture of charcoal and coke. The wind pressure is 15 millimeters (0.491 inch) of mercury. In twenty-four hours, 8 tons of ore are screened. Black or blistered copper, thin matte, and slag are obtained. The black copper is refined, the thin matte treated like the matte, the slag used as alloy in smelting ore.

Fahl copper ore and copper ore containing silver are roasted in heaps and smelted into matte in shaft furnaces. The matte is then roasted in heaps and smelted in reverberatory furnaces into concentrated matte. The latter is crushed, roasted dead in continuous reverberatory furnaces, and smelted to black or blistered copper in annular furnaces.

In the mines at Bischofshofen, in Salzburg, pyrites free of silver and containing arsenic, with 12.5 per cent of copper element, are smelted unroasted in annular shaft furnaces to matte holding 21 per cent of copper. This is roasted in heaps and then smelted in annular shaft furnaces to concentrated matte containing 35 per cent of copper. The resulting product is now twice roasted in heaps and then smelted to concentrated matte containing from 76 to 78 per cent of copper. Half of this material is roasted in continuous reverberatory furnaces, and then worked up with the remaining unroasted half to black or blistered copper in reverberatory furnaces. This black copper is then refined in reverberatory furnaces.

CARL BAILEY HURST,
Consul-General.

VIENNA, *March 7, 1901.*

AUSTRALASIA.

NEW SOUTH WALES.

The wet, or acid, method is not commercially installed in Australasia, the system now in vogue in the principal copper mines consisting of smelting in water-jacket furnaces.

The Mount Lyell (Tasmania) Company has the largest pyritic copper-smelting converting plant in the world.

The Cobar Copper Company, of New South Wales, ranks next in importance as a copper producer, using ordinary water-jacket smelting furnaces, finishing the refining in the ordinary brick furnaces at Lithgow. The system of water-jacket smelting is installed at the undermentioned mines and reduction works:

New South Wales: Dapto, Limited; Cockle Creek, Limited; Gurrago Loyd Copper Company; Blayney Copper Company; Nymagee Copper Company.

Queensland: Aldershot and Chillagoe.

South Australia: Wallaroo.

Many of the smaller mines still use the old-fashioned reverberatory brick furnaces.

The crushing machinery consists of Krom or Cornish rolls.

Krupp mills are being tried, but the results are not ascertainable. Trommels and jigs are used.

The value of concentrates obtained from the "wet" concentrating plants now opening is 8½ to 23 per cent Cu, according to character of ore and gauge operated upon.

The general value of the tailings resulting from concentration is one-fourth of 1 per cent to one-half of 1 per cent Cu.

Lead piping and compo-metal are used for piping acid solutions.

For the agitation of pulp, ordinary rotating arms of wood are employed, with baffle boards to assist inward flow to center of vats. Wooden vats in all cases are used.

For the above information, I am largely indebted to Mr. Brown, a mining and metallurgical expert, who is well acquainted with mining methods in Australia.

ORLANDO H. BAKER,
Consul.

SYDNEY, *February 12, 1901.*

NEW ZEALAND.

There are no mines or works here treating copper ores; therefore there is no information available on the subject treated in Department circular. I may remark, however, that there are some copper mines in New Zealand. As far back as forty years ago, a mine was worked in the Great Barrier Island and one on the Kawau Island, close to Auckland City; but the price of copper fell, and the mines were closed and have not been worked since. A syndicate has been recently formed to open the Kawau mine, with the idea of exporting raw ore or concentrates to England or to New South Wales, where there are first-class works established for the treatment of copper ores. At Nelson, in the Middle Island of New Zealand, there is also a copper mine at which, some twenty years ago, a water-jacketed smelting furnace was erected, manufactured by Fraser & Chalmers, Chicago. The furnaces ran short before they got fairly started, and it is only lately that a Melbourne (Victoria) syndicate has taken over the mine and intends, I am advised, to start smelting again. As there is a high percentage of sulphur in this ore, it is thought that they will use the hot-air blast pyritic smelting process, as they do in Tasmania. There are other copper mines in New Zealand (in Auckland and Wellington provinces), but they are unworked, and at the present time there is no export of copper ore from this colony.

FRANK DILLINGHAM,
Consul.

AUCKLAND, *January 30, 1901.*

SOUTH AUSTRALIA.

The ore as brought up from the mine here is passed through a "Gates" or "Blake & Marsden" ore breaker, then through ordinary Cornish rolls, then along the revolving trommel, eight holes to the inch, and then is passed to jigs which separate the copper ore from the gangue, the finer ore being passed over the ordinary Cornish buddle, both convex and concave. The gangue, tailings, and slimes from the jigs are not recrushed, but after passing over the buddles are dumped onto pile. (*Vide* School of Mines Report, 1893, pp. 173–178.)

No attempt, so far as I know, has been made to size the ore at the Moonta or Wallaroo mines in South Australia, but flat, sloping screens have been used in other places for the dry method. The most approved method of concentrating ore is jigging on a long jig, covering several compartments, which has a vanning motion (worked by cams and levers) in a large tank of water; the other method is by the ordinary pulsating jig. There is no dry method used in this colony, but in New South Wales Pape & Henneberg have been separating sulphide ore from the barrier by means of circular revolving disks. The ore is crushed dry, passed through rolls, and sized through revolving screens; then the different sizes are run onto revolving disks and the momentum caused by the rapid revolution of the disks throws the heaviest particles of the ore by centrifugal force into a compartment. The other constituents of the ore are thrown into different compartments, according to specific gravity.

The acid method is not used at all at present, but probably the process employing a weak solution of hydrochloric acid will be used in cases where there is not sufficient acid in the tailings and slimes from the sulphide ores. The brine from steam boilers will serve when salt water is used.

The value of concentrates most generally produced is:

	Per cent.
Copper from the Wallaroo mines	10
Copper from the Paramatta mines	16
Copper from the Moonta mines	17
Copper from the Hamley mines	18

The tailings generally contain about 1½ per cent of copper, expected to extract 1 per cent. Moonta vein stuff, in 1899, was said not to contain more than 1½ per cent of copper, or, more correctly speaking, "yielded" 1½ per cent of copper; and probably there is another 1½ per cent in the tailings. Weak sulphuric acid is deemed most effective for leaching where the ore is not sufficient to combine with the salt water.

Only the tailings and slimes have been treated at the Moonta mines, and those only by natural leaching with water. The copper-impregnated water is passed through a series of wooden hutches, in which scrap iron is placed, and the copper is precipitated in the form of brown mud of 60 to 70 per cent of copper. Electrolysis is not used.

Lead pipes are used for piping acid solutions and wooden vats for leaching.

A short time ago, the directors of the Wallaroo and Moonta Smelting Company secured the services of Mr. Delgado, a Spanish expert, to report on a scheme for treating the tailing heaps at the Moonta mines by means of the cementation process. This report, I understand, favors an early start on the project, and it is likely that in six months' time work will be begun. It is estimated that there are at present in the heaps at the Moonta mine about 1,000,000 tons of low-grade tailings. Sea water, obtained by pumping through a specially constructed pipe track from the Moonta Bay, will be run over these heaps and the copper-impregnated fluid passed into huge vats, in which it will be brought into contact with iron and precipitated in the form of copper sand, which will be smelted in the ordinary manner. The precipitate is expected to contain from 65 to 70 per cent of pure copper. After having served its purpose, the water will be run back to the sea by gravitation. The process, which is not new, is similar to that in use at the great Spanish copper mines and elsewhere.

Estimated cost of 1 ton of fine copper, obtained from the precipitate of 80 per cent of copper extracted from an ore yielding 1 per cent of copper.

Handling.	Tons of ore or precipitate treated to make 1 ton of copper.	Cost rate per ton of 2,240 pounds.	Cost of refined copper per ton of 2,240 pounds.
		s. *d.*	£ *s.* *d.*
The first operation preceding the mining of the ore in removal of the overburden.		0 3½	1 9 2
First series (mining or quarrying)	100 tons of ore yielding 1 per cent of copper.	0 7	2 18 4
Second series:			
Piling and washing the ore (precipitation and result of precipitate, 80 per cent).	100 tons of ore	0 7	2 18 4
Cost of iron	1.75 tons of iron, including freight	1 8½	8 10 10
Third series (smelting and precipitate)	1.30 tons of copper precipitate, containing 80 per cent copper (result, 1 ton of refined copper).	1 2	5 16 8
Total		4 4	21 13 4

CHAS. A. MURPHY,
Consular Agent.

ADELAIDE, *February 22, 1901.*

TASMANIA.

Consul-General Bray sends from Melbourne, February 21, 1901, the following information, furnished by the manager of the largest copper mine in Tasmania:

The Jaque rotary crusher is mostly used for rough ore. The movable jaw is a massive cone, suspended or supported on a step which oscillates with a gyrating motion in a heavy, bottomless, cup-shaped mortar. It reduces to 2½ inches. The Blake crusher is also used; it has a massive jaw hanging from two pivots, which is pressed against the stationary one by a vertical connecting rod and toggles. It can be used for both rough and fine crushing. Cornish and Roger rolls are used for fine crushing.

In screening ore, a strong cylindrical screen of iron netting at least one-eighth of an inch thick, 10 feet long by 4 feet in diameter, and making twelve revolutions per minute, is placed near the mouth of the spout. It has one-fourth-inch holes for the first 6 feet and three-fourth-inch holes for the last 4 feet. The ore is concentrated by water and by reverberatory furnaces, as practiced at Butte, Mont., and by blast furnaces.

In leaching, the ground is first prepared with a network of dry-stone drains for ventilation and drainage. The heap for leaching is from 20 to 30 feet high, with a dip of 1 in 300, to assist in the distribution of water all over the surface. Only a small portion of the pile is washed at a time; when that shows cold, the waters can easily be diverted to another part, and so on. To assist this, the whole surface is divided into small areas having a depth of 1 foot, connected one with the other. All the liquors go to the one settling tank.

According to furnace, quality of ore, etc., dry concentrates may yield from 30 to 60 per cent copper.

Not much is known here about wet concentration; it does not seem to be a success. Leaching or "the cementation process" is found the best for poor ores. Salt and sulphuric acid are deemed most effective for leaching.

The assay value of the ore of the country may be stated as follows:

	Per cent of copper.
Bornite or erubescite	45 to 60
Copper pyrites	30
Iron pyrites	3
Chalcopyrite	20
Copper glance	60
Native copper	Small quantities.

Nitrosulphuric acid 1–3 is found the best solvent.

After the ore is crushed, it is first roasted by the alkali manufacturer for the sake of the sulphur. This roasted product is calcined again in a muffle furnace, with 14 per cent of salt, for about twelve hours. The calcined ore is now placed in wooden tanks and washed with warm water slightly acidulated with hydrochloric from the towers, where the fumes are absorbed. These tanks are fitted with false bottoms. After the copper is all washed out, which should be in about ten washings, during which time the mass is kept stirred, the liquor, if it does not contain too much silver, is run direct into other wooden tanks containing clean scrap iron. Precipitation is here assisted by a jet of steam. The copper proportion so produced may run over 70 per cent.

I have already described how ore may be treated in the open after crushing. The liquors from the settling tank, as at the North Mount Lyell mine, run into canals filled with pig iron. Pig iron is found best at the head of a canal system, and scrap iron at end, as the latter is best adapted to catch copper in weak liquors.

The leaching heap only requires to be picked now and again, and percolation goes on smoothly. This can easily be effected by diverting the waters on the surface, as already explained, without interrupting the process. The copper proportion so produced may run from 75 to 85 per cent.

The canals and vats or tanks used in connection with the above are of wood throughout. No nails are employed in the construction.

Lead pipes or wooden canals are used for liquors containing sulphuric acid. All pump fittings are of gun metal, and discharge pipes are lined with lignum-vitæ.

Consul Webster, of Hobart, under date of March 8, 1901, transmits the following memorandum, furnished by the government geologist of Tasmania, Mr. W. H. Twelvetrees:

TREATMENT OF COPPER ORE IN TASMANIA.

Copper ores are not treated by the wet method in this State, nor concentrated previous to smelting.

There are two smelting works in the State which receive copper ores for reduction. The principal establishment is that at Queenstown, belonging to the Mount Lyell Company, where copper ores, averaging 2.48 per cent copper, 1.95 ounces silver, and 0.074 ounce of gold per ton, are treated by the pyritic method of smelting, in which the fusion of the sulphides is nearly entirely effected by the heat arising from their oxidation. No wet treatment enters into the process.

Two sets of furnaces are in blast, one comprising six, the newer addition five. The first plant had two-blast furnaces, subsequently increased to six, with six

125-horsepower boilers and four hot-blast stoves, with five blowers, dynamo, etc. The third furnace is the shorter one—for matte concentration.

The size of the second nest of furnaces is large for copper smelting, viz, 210 inches by 42 inches in the clear of the hearth; the height from tapping floor to charging floor, 20 feet; the number of tuyeres, 40. The blast is heated by four hot-blast stoves, in two sets. The power blast consists of six boilers of 125 horsepower each and five vertical compound condensing engines, each coupled direct by a flexible coupling to a No. 8 Roots blower.

The disposal of the slag is conducted by means of granulation.

The other works are at Zeehan and belong to the Tasmanian Smelting Company. A furnace is prepared for copper-ore smelting, if such ore should be supplied, but is built for future requirements, rather than for present needs.

CANADA.*

QUEBEC.

Consul Lang, of Sherbrooke, January 18, 1901, writes as follows:

The mines of the Eustis Mining Company are located at Eustis, Quebec, 10 miles south of Sherbrooke, on the line of the Boston and Maine Railroad, and the information herein contained has been obtained from the officers of that company, and applies only to the manner in which the mining business of that company is conducted.

The ore mined by this company consists of low-grade copper pyrites, or, speaking more accurately, iron pyrites carrying a little copper, silver, and gold. Analysis of the valuable contents of the ore gives from 45 to 50 per cent of sulphur, 2 to 3 per cent of copper, from 1 to 2 ounces silver, and a trace of gold.

The first treatment is to extract the sulphur, making sulphuric acid; then the burnt product, or cinder, is smelted and refined. The last process consists of refining by electrolytic methods, which gives pure copper and saves the silver and gold.

The ore is broken to the proper size for acid manufacture (about 2 inches square) by hammers. Rock breakers driven by machinery make a large proportion of fine ore, which is of less value.

Ore from the mine is dumped onto apparatus with 2½-inch spaces; what goes over this is "rough ore," and has to be broken into small pieces. The ore then falls on a screen with 1-inch meshes. The larger pieces going over the screen are also broken by hand; the finer, going through the 1-inch mesh, are afterwards screened into three sizes, passing through a revolving circular screen, the sizes being from 1 inch to three-fourths of an inch, from three-fourths of an inch to one-fourth of an inch, and from one-fourth of an inch to dust. These different sizes are put through the ordinary plunger jigs, by which method the rock is separated.

---

* Consul-General Turner, of Ottawa, says that nowhere in Canada is copper produced by the wet process.

A very small proportion of valuable ore is lost in tailings. There is no leaching. The material, or sulphur in ore, is sold to acid makers. The resulting cinders are smelted by the company into mattes, and these are refined by smelters.

NEW BRUNSWICK.

Commercial Agent Beutelspacher, of Moncton, says that copper-mining enterprises are located at Point Wolfe and Dorchester, New Brunswick. The company at Dorchester is busily engaged in erecting concentrating machinery and smelters, but no process has developed, as the copper industry in the district has not yet passed beyond the crudest stage.

NEWFOUNDLAND.

Consul Carter, of St. John's, reports that no ores are smelted in the colony, the copper mined being shipped to the Cape Copper Company, Swansea, Wales, at which place it is treated. The shipments of the crude material amounted last year to about 80,000 tons of 3½ per cent.

MEXICO.

The method employed in crushing silver ores is almost universally used here for copper, but in a few instances where concentration is contemplated the coarse crushing is done by rock breakers (Blake or Dodge) and the fine crushing is done either by stamps or rollers, the latter being preferred on account of their yielding a more homogenous material.

The screening is done by trommels, the coarse material being generally passed by automatic elevators to a second set of rollers. I do not know of any dry concentration of copper ores in this country. The concentration by water is performed in jigs first, and the fine ores are concentrated on different systems of tables, such as Frue vanners, Wilfleys, or Bartletts; in some instances, large buddles are employed in their place. In olden times, concentration was successfully carried on by means of Mexican "planillas," a kind of inclined plane made of wood, the water being thrown thereon by men with buckets, and the material being moved with a shovel during the operation.

I do not know of any leaching process for copper ores in use in this country.

The assay value of concentrates is naturally variable, according to the gravity of the substances accompanying the copper ores, such as galena, blende, iron pyrites, etc. In some instances, ores containing originally 1 per cent of copper, or even less, are concentrated to 9 or 10 per cent. In the case of the Inguaran mines (Michoacan) and surrounding regions, the ores consist of copper in large crystals in the vein matter, with very little iron pyrite accompanying them; and the concentrates there obtained assay over 30 per cent in copper, differing from the contents of the original ore.

The copper ores of this country are those generally spread all over the world; carbonates (malachite and azurite), silicates, and chlorides on the surface and upper levels of the mines, turning gradually into the different classes of sulphides (chalcopyrites, bornite, phillipsite, etc.) in the zones where atmospheric influence or erosion has put a stop to the decomposition and alteration. Gray copper is also widely spread over the country, and the mines are worked on a large scale. Minerals formerly unknown have been met with in small quantities; for instance, the boleite and cumengite in the Boleo mines in Lower California. Black and red oxide of copper as well as native copper are of frequent occurrence. The assay value of the ores may be said to be in proportion to the width of the ore bodies, small streaks averaging often over 15 per cent, while the average of commercially valuable veins or bodies of 2 to 20 feet may be termed 5 to 6 per cent, and the many still larger bodies known average from 2 to 4 per cent; these, however, though of rather low grade for direct smelting, are in certain cases very valuable on account of their adaptability for concentration.

ANDREW D. BARLOW,
Consul-General.

MEXICO CITY, *May 11, 1901.*

CHILE.

Consul Greene sends from Antofagasta, June 7, 1901, the following letter from Mr. E. Stewart Jackson, a mining expert:

> I take much pleasure in giving you the data you require regarding the concentration of low-grade copper ores in the Antofagasta copper districts.
>
> In the Department of Antofagasta are the districts of Chuquicamata, El Abra, Conchi, Lomas Bayas, Tuina, Sierra Gorda, Naguayan, Desesperado, Chacaya,

Cerro Gordo, Portezuelo, Sierra Miranda, Coloso, Cobre, etc. There were exported last April:

Description.	Quantity.	Per cent of copper.
	*Sp. quintals.**	
In ores	26,267	16.6
In regulus	7,413	44.5
In bar	1,838	100

* 1 Spanish quintal = 101.41 pounds.

There are very few concentration plants, owing to the scarcity of water. In Chuquicamata, there are three establishments, which employ dry cylindrical screens, without any crushing.

These screens are double and treble and concentrate up to 16 per cent, putting through poor rock with films of atacanite ore, which assays, on an average in bulk, 0.64 per cent. For every 500 tons passed through the screens, 20 tons of 16 per cent are recovered. In some places, the ore is far richer. The mines that work lode stuff do not concentrate. This ore averages 16 per cent. In Calama, there are two Wilfley tables doing high concentration, but the classifiers are not good, giving anything but satisfactory results. The plant is being improved. In "El Abra," owing to the scarcity of water, only a small concentrating establishment has been put up—one Blake's crusher, a set of cylindrical screens, an elevator, one pair of rolls, another set of screens, and four jiggers (continual working).

The ore is composed of black sulphides and yellow sulphurets, and is concentrated from 8 per cent to 16 or 18 per cent. There are no other concentrating works in any of the mines.

In Antofagasta, there is a small establishment for leaching the carbonates and oxychlorides with imported sulphuric acid, and precipitating with old iron. The output of cement is insignificant. Most of the ores are exported to England, especially the higher grade ore. From 15 per cent down, a better price can be realized at the large establishments of Playa Blanca or Fundicion Templeman. These works smelt all the ore in blast furnaces, either making matte, which is generally made argentiferous by adding silver ores from Caracoles and Bolivia, or refining to bar.

In the Department of Tocopilla are the districts of Tocopilla, Punta Blanca, Gatico, Cobija Michilla, Painzos Blancos, and Hornos. None of these ores are concentrated, being all sent to the south to the establishments of Lota and Guayacan, where they are smelted, except the Gatico ores, which are smelted on the spot. In Tocopilla, all the smelting establishments have been shut down. The present production in this department is about 1,000 tons of 13 per cent ore a month.

In the Department of Taltal are the districts of Guanaco Esploradora, Bandurrias, Paposo Canchas, and Portezuelo. None of these have concentrating establishments, owing to the scarcity of water and the expense of fuel.

The exports in 1900 were 87,403 Spanish quintals, with 19,315 Spanish quintals fine or 890 tons bar. In the first five months of this year they amounted to 46,300 Spanish quintals of 22 per cent ore, with 10,063 quintals fine or 463 tons bar. Average, 9,000 Spanish quintals of 22 per cent a month. In the whole department, the production can be put down at—

	Tons fine.
Antofagasta	350
Taltal	90
Tocopilla	75
Total	515

Several people have thought of putting up a sulphuric-acid establishment or chlorination process in Calama, on the banks of the River Loa, at 10 kilometers (6.2 miles) distance from Chuquicamata, to treat the colored ores, which obtain a small price from the smelters. Nothing has been done, from want of capital. The ores are specially adapted for leaching, and as sulphur and nitrate are to be found in the vicinity at comparatively small cost, this business would thrive.

JAPAN.

Consul-General Bellows writes from Yokohama, March 2, 1901:

In response to an inquiry addressed to the mining bureau of the Japanese Government, I have received the following:

> Copper ores in Japan, both high and low grades, are alike treated by smelting. With the very low classes of ore, the wet method has been tried at some mines, but, finding it not very profitable, it was abandoned. We, therefore, have no knowledge as to the most economical method of treating such ores. At present, they are simply thrown aside.

CAPE COLONY.

Consul-General Stowe writes from Cape Town, May 20, 1901:

There is but one company in this colony engaged in copper mining (Cape Copper Company, Limited, Ookiep, Namaqualand), and the officials of that company, in reply to my request, express regret at being unable to give the information.

I may add that the latest report on output gives:

Mines.	1897.	1898.
	Tons.	*Tons.*
Namaqualand	30,977	27,722
Concordia	8,000	9,100

Valuable finds, yielding a large percentage of copper, are reported in Cape Colony and Rhodesia.

AUTOMOBILES IN EUROPE.

The recent race in this country for the international cup was a "walk-over" for France. After all the talk of automobilists of other countries, the contest finally narrowed down to a full representation on the part of the French. That much progress has been made and prestige obtained by the automobile as a factor in everyday life was shown at the exposition.

FRENCH ROADS.

Without doubt, the excellent roads of this country have contributed much to the development of the automobile industry. The highways are remarkable for their durability and evenness, and they receive continual attention. If a rut or a hollow forms, it is at once attended to, usually by being deepened and roughened, so that new material will adhere, and then rounded by small chip stones. This is undoubtedly one of the prime reasons for the superiority of the French machine. The smooth running necessitates less repair and less power. One of the greatest aids to American industry along this line would be better public roads.

The Automobile Club of America has only this year taken up the subject of placing signposts upon the highways. It is to be hoped that they will be of a material that will not decay or the figures become illegible. Here all the roads are fully provided with explicit information and the posts are of iron.

EXHIBITIONS.

Has it ever occurred to the manufacturer that the time and money put in automobile shows could be more profitably invested in some other manner? Several of the French manufacturers say that one of the great difficulties they have at automobile exhibitions is to "fix" intending purchasers. A person sees so much that, realizing the startling rapidity of automobile improvement, he is afraid of an expensive purchase becoming "antique" in a couple of seasons.

It would prove much better to have the machine visit the people instead of having people come to see the machines. A tour of the country with a train of automobiles would advertise and popularize. The expense of such a proceeding would be comparatively small.

AUTOMOBILE RAILWAYS.

The Austrian Minister of Railways has ordered an automobile carriage from the Vienna Daimler Motor Company. It is to be of the dimensions of an ordinary third-class European railway carriage, with thirty-two seats and standing room. Under the flooring will be placed a 30-horsepower 4-cylinder motor, with the mechanism and supplies necessary to enable the carriage to travel independently at a speed of 30 miles an hour. Controlling levers will be placed at both ends of the carriage on platforms inclosed with windows, and will enable the carriage to move in either direction. The car necessitates the services of only one man, and will probably be put into use during the coming autumn on the Southwestern line, in Lower Austria.

Such a vehicle will permit exceedingly economical traffic on local lines in thinly populated districts, and consequently more frequent trains and better connections with main lines. The drivers of automobiles in this country often outdistance the fastest trains.

MILITARY AUTOMOBILES.

Among the many uses to which the automobile is applied in military service is that of a new mill and bakery, called the Schweitzer Military Mill-Bakery Automobile. This will follow the regiments on the march and make fresh bread from the wheat obtained on the spot. There is mounted on an automobile car a mill with bolters and kneading troughs, all run by the same motor which runs the automobile. The oven is drawn along in the rear. The bran obtained serves as food for the cavalry horses. By this method, 5,000 men can be fed daily. This mill bakery can also render service in cases of large labor contracts which bring together numbers of workmen.

COMMON VS. TECHNICAL CONSTRUCTION.

The manufacturers here, in their zeal for speed, seem to have forgotten the conditions which the automobile supplants. If an accident happens to a vehicle drawn by horses, it is not necessary to go very far to find someone who can repair it; but the technicality of the make-up of the automobile prevents this. The vehicle that shows the least departure in construction from the usual type will be the most successful. The design should be well known in the art, and made susceptible of repair by any carriage manufacturer, and the electrical parts should be so standardized and simplified that any electrician could successfully make the inspection and repair that may be necessary from time to time

ACCIDENTS.

Every daily paper has some accident to mention. There are many different causes—exaggerated speed, inexperienced drivers, want of attention—but there is one cause which is becoming more and more dangerous; it is the cheap automobile. In all industries, the moment a high-priced article has won public favor, natural laws of competition begin to lower the price.

There would appear to be but two legitimate means by which the price of the automobile could be cheapened. First, to manufacture in quantities with special machinery, thus reducing cost; secondly, to simplify the mechanism of existing models and to manufacture only a single type.

These two legitimate ways are not always followed. There is, unfortunately, a desire to sell to the public a machine which has only the appearance of the first-class original, the qualities of resistance and security being entirely wanting.

The many accidents have caused legislation all over Europe. M. Waldeck-Rousseau, President of the Council, and M. Pierre Baudin, Minister of Public Works, sent only a few days ago to the Conseil d'Etat the project of a decree to reduce the excesses of speed against which so many complaints have been made. The maximum speed allowed in the open country is 30 kilometers (18.6 miles) an hour. According to the new project, any automobile capable of exceeding this speed, and thus liable to violate the law, shall be provided in front and behind with "plaques" bearing a registered number, and this number shall always be visible. The use of alarm horns is to be circumscribed. The horn must not be sounded except for the purpose of giving notice of approach in dangerous places and of avoiding accidents. It is no longer to be employed for the purpose of "clearing the way" an unlimited distance ahead in order to guarantee a free and exclusive passage. Finally, some very minute directions are to be given with regard to racing.

The Statthalter, of Lower Austria, in consequence of complaints of the police regarding excessive speed, recently sent a letter to the Automobile Club of Austria on the subject. To this letter the club sent a long reply, from which the following passages are taken:

> It can not be denied that certain automobilists drive very fast and make themselves liable to accidents. This is, however, the exception and not the rule. The greater number of prosecutions are really due to the fact that the police authorities do not completely understand the automobile. An automobilist, when driving at full speed, can bring his vehicle to a standstill within 2 yards, and can therefore drive up to an obstacle without diminishing speed to any great extent. A carriage drawn by a horse at a slow pace, which can be stopped only within 7 yards, is much more dangerous than a fast-traveling automobile, which can be brought to a standstill within 2 yards.

At the conclusion of its letter, the club expresses the opinion that the present state of affairs is similar to that prevailing at the introduction of the bicycle, and that in a short time people and horses will get accustomed to the automobile as they did to the cycle.

SOME NEW FRENCH MACHINES.

Some weeks ago, I had occasion to see a vehicle which was in some respects a novelty. It was a two-seat voirturette, with a third seat in front, a sloping steering bar, and with the mechanism entirely inclosed in a metal frame independent of the carriage, facilitating the inspection of the working parts. This mode of arranging the mechanical system does away with the loss of work caused by the bending of ordinary frames, which with carriages, generally speaking, amounts to 50 per cent. The mechanism is reduced to its simplest form; the double-cylinder water-circulation motor is 5 horsepower; the total weight is 800 pounds; maximum speed on a level, 30 to 40 miles.

Another French manufacturer has put upon the market a "petite voiture," four seats, 8 horsepower, with a weight of 1,100 pounds. It is claimed that there is no vibration whatever from its motors. Alcohol or oil can be used, either mixed or separately. The makers claim that they possess the only motor doing this.

Another machine, manufactured by the Compagine des Transports Automobiles, has the name of "voiture mixte." It has a 6-horsepower petroleum motor and also an electric motor, giving, combined, 20 horsepower. These two motors can be used together or separately, which would prove invaluable in case of a sudden breakdown in a difficult country. The ordinary motor is placed in front and the dynamo behind. No chain is used.

Another firm has a single-cylinder, water-circulation, 3-horsepower motor.

At a recent automobile exhibit in this country, a French manufacturer showed a very convenient interchangeable coupé and victoria. The motor was electric and the construction so arranged that in a few minutes the body of one vehicle could be lifted off its base and the other substituted.

The celebrated Panhard-Levassor Company has a large delivery van, suitable for a grocery or a laundry, with places for seating seven or eight persons.

A recent production is the "bank or commissionnaire's wagon," fitted inside like a sort of small omnibus, with cash drawers, lockers, etc. It should make a capital model for an army paymaster in the field or a traveling hawker of jewelry.

The Krieger system of electric locomotion is shown in an "electrolette," which can run 70 miles on level roads without recharging. The great difficulty with electric vehicles in France is to find supply stations.

ASSOCIATIONS.

Since the year 1895 there has been in existence in France a society to encourage all automobile enterprises. The Automobile Club of France numbers to-day considerably more than 2,000 members. The annual fees are $40. Its headquarters are in Hotel Plessis-Belliere, 6 place de la Concorde, Paris. Among other clubs in Europe may be mentioned:

Bordeaux.—L'Automobile-Club Bordelais, 42 allees d'Orleans; fees, $8 a year; founded, 1897.

Nice.—L'Automobile-Club de Nice; founded, 1897; fees, $6 a year.

Lyons.—Le Bicycle et Automobile-Club de Lyon, 12 rue du Bat-d'Argent.

Toulouse.—La Société des Chauffeurs du Midi, 25 rue Roquelaine; founded, 1897; fees, $5 a year.

Berlin.—Mitteleuropaischer Motorwagen-Verein, 1 Universitatstrasse; founded, 1897; fees, $5.

Vienna.—Oesterreichischer Automobil Club, 19 Johannesgasse; founded, 1898; fees, 30 florins ($12).

Brussels.—L'Automobile-Club de Belgique, 14 place Royale; founded, 1895; fees, $4.

London.—Self-Propelled Traffic Association, 30 Moorgate street, E. C.; Automobile Club of Great Britain, 4 Whitehall court.

Milan.—Club Automobilisti Italiani, 6 via Giulini.

The Touring Club of France is not an association exclusively for the promotion of automobilism. Its functions are much more vast, and every tourist on the Continent is indebted to this gigantic organization, often without knowing it, for the amelioration of the conditions of traveling. Its membership has increased to more than 70,000. Its organ, the Revue du Touring-Club de France, is one of the most widely read of French journals. Its headquarters are at 10 place de la Bourse, Paris; fees, 5 francs ($1) a year. This club publishes an annual giving all places of interest on the Continent, conditions and maps of all roads, distances, hotels, laws and regulations regarding tourists, depots of petroleum, etc., and everything of advantage to the traveler. An agreement has been reached by the clubs of France, Belgium, Italy, Switzerland, and Luxembourg for the exchange of privileges and courtesies. The headquarters of the Touring Club of Belgium is 11 rue des Vanniers, Brussels; that of the Touring Club of Italy, 2 via Giulini, Milan; that of the Touring Club of Switzerland, 4 boulevard du Theatre, Geneva; that of the Touring Club of Luxembourg, 5 avenue de l'Arsenal, Luxembourg.

TAXES.

Since the month of May, 1898, automobiles in France are taxed as follows:

In Paris:	
Carriages with two seats	$12
Carriages with more than two seats	20
In communes of more than 40,000	$8 to 15
In communes between 20,000 and 40,000	6 to 12
In communes between 10,000 and 20,000	5 to 10
In communes between 5,000 and 10,000	4 to 8
In communes less than 5,000	2 to 4

Motocycles pay a tax of $2.40 a seat; quadricycles therefore pay $4.80.

SPECIAL PRESS.

The special French dailies devoted to this interest are:

Le Velo, 2 rue Meyerbeer, Paris. Subscription: Twenty francs ($3.86); abroad, 30 francs ($5.79).

Le Journal des Sports, 4 faubourg Montmartre, Paris. Subscription: Twenty francs; abroad, 30 francs.

The special French weeklies are:

La Locomotion Automobile, 4 rue Chauveau-Lagarde, Paris. Subscription: Ten francs ($1.93); abroad, 12½ francs ($2.39).

La France Automobile, 68 avenue de la Grande-Armee, Paris. Subscription: Sixteen francs ($3.08); abroad, 20 francs.

Les Petites Annales Illustrees du Cycle et de l'Automobile, 23 avenue des Champs-Elysees, Paris. Subscription: Five francs (96 cents); abroad, 7 francs ($1.35).

L'Auto-Cycle Illustre, 4 boulevard Poissonniere, Paris. Subscription: Eight francs ($1.54); abroad, 11 francs ($2.12).

Cycle et Automobile Industriels, 9 rue Buffault, Paris. Subscription: Twelve francs ($2.31); abroad, 15 francs ($2.89).

Tous les Sports, 229 rue St. Honoré, Paris. Subscription: Ten francs ($1.93); abroad, 15 francs ($2.89).

La Vie au Grand Air, 106 boulevard St. Germain, Paris. Subscription: Nine francs ($1.73); abroad, 12 francs ($2.31).

The special French monthlies are:

L'Industrie Velocipedique et Automobile, 75 rue Vieille-du-Temple, Paris. Subscription: Six francs ($1.15); abroad, 8 francs ($1.54).

Le Moniteur Automobile, 12 rue Le Peletier, Paris.

Some of the special foreign publications are:

Germany.—Das Journal für Wagenbaukunst, 31 Kanonier Strasse, Berlin; Der Motorwagon, 1 Universitatstrasse, Berlin.

Austria.—Club Organ des Oesterr. Automobil Club, 8 Niebebungengasse, Vienna.

Belgium.—L'Automobile Illustre, 7 rue de Florence, Brussels; L'Autocar de Belgique, 1 rue St. Lazare, Brussels; Le Cycliste Belge Illustre, 17 rue du Pelican, Brussels.

England.—The Autocar, 19 Herford street, Coventry; the Auto-Motor and Horseless Vehicle Journal, 62 St. Martins Lane, W. C., London.

Russia.—Samokat, 5 boul. Kounogvardeisky, St. Petersburg.

United States.—The Motocycle, 1440 Monadnock Block, Chicago; The Horseless Age, 216 William street, New York; The Hub, 247 Broadway, New York.

THORNWELL HAYNES,
Consul.

ROUEN, *June 27, 1901.*
No 252——4

AUSTRIA'S GREAT CANAL SYSTEM.*

Austria has just adopted a measure for a system of canals that is of far-reaching importance. This undertaking will do more than anything yet enacted in this Monarchy to promote the commerce of the country. It will not only bring the various provinces into closer touch, but will also afford the cheapest freight connections with Germany and Russia.

The measure provides for (1) a canal from the Danube to the River Oder; (2) a canal from the Danube to the Moldau, near Budweis, in connection with the canalization of the Moldau from Budweis to Prague; (3) a canal from the Danube-Oder Canal to the Upper Elbe, in addition to the canalization of the intervening Elbe bed as far as Melnik; (4) a canal from the Danube-Oder Canal to the Vistula, and to some navigable portion of the Dniester.

These 992 to 1,054 miles of navigable water ways are to be constructed by the State, with the cooperation of the provinces, districts, and towns, and in particular the cities of Vienna and Prague, which are to furnish proportionate contributions. To guarantee the contributions, the Government is to begin immediate negotiations with the interested provincial representatives and with the municipalities of Vienna and Prague. It may be mentioned that the contributions can be made either by single payment or in annual installments, or through the erection of certain portions of the designed work—such as harbors, docks, and streets leading to them—or through the cession of land or relinquishment of other property rights and of rights to the water ways to which those concerned might otherwise be entitled by existing laws.

The work of construction must begin, at latest, some time during the year 1904. The necessary preliminary work must be so calculated that the whole system will be finished within twenty years. The cost of construction, in so far as this cost has not already been covered through the contributions of the various interested sections, is to be met by an issue of 4 per cent, tax free, Government bonds, redeemable within ninety years. The Government is empowered to issue these bonds to an amount not to exceed 250,000,000 crowns ($50,750,000) during the period of construction, from the year 1904 to the end of 1912, and the money thus raised shall be used only in building the designated water ways. For the expenses of construction after the year 1912, the necessary legislative measures will be taken later.

---

*See ADVANCE SHEETS No. 1067 (June 20, 1901).

The Government is authorized to determine finally the exact routes for the canals in question. Any deviation from the conditions of the programme already fixed by law, or for any enlargement beyond the limits of the prescribed plans, will require especial legislative approval. All matters connected with the execution of the canal project shall fall within the jurisdiction of the Ministry of Commerce, which is intrusted with the carrying out of the work. The entire cost of construction is estimated at 750,000,000 crowns ($152,150,000). The canals are designed to admit boats up to 600 tons burden.

It will be seen from this really great scheme that the Austrian Government is making energetic efforts for the building up of her commerce. Although the topographical configuration will render the work of construction difficult and the severe winters will close the canals for a considerable time each year, the system will be of incalculable benefit to the whole country and will connect Austria more closely with her neighbors—Germany and Russia. Not only will the cost of freight from the German seaports be appreciably less, but many portions of the interior now practically inaccessible to extensive trade can then be successfully developed. Coal, lumber, and other products, which in certain remote districts can not be utilized on account of cost of transportation, may then be brought into the market. It is to be hoped that with the completion of these water ways our American products can be more cheaply introduced into Austria-Hungary than at present.

CARL BAILEY HURST,
VIENNA, *June 15, 1901.* *Consul-General.*

SHIP CANALS OF RUSSIA.

The proposed ship canal between St. Petersburg and the White Sea, engineering plans of which have been approved by the Minister of Communication, is to be commenced in June of this year. In brief, the plans are as follows: The naval port Cronstadt (the entrance to St. Petersburg) is to be connected with the new naval harbor Sorotskaja, on the White Sea, by a canal of sufficient breadth and depth to admit the passage of Russia's largest cruisers. The extreme depth will be 31 feet, while the water surface will have a breadth of 200 feet. The length of the canal will be 963 kilometers, and it will pursue the following course: From the River Neva to Lake Ladoga; across the lake to Svir River, and the entire length of this stream to Lake Onega; due north through a new canal to Sego

Lake; again by canal to Vigozero Lake; and thence to the Gulf of Onega and White Sea.

This new water way will not only have advantages from an industrial point of view, creating cheap transportation for timber and grain from the provinces of Archangel and Olonetz, and causing the establishment of saw and grain mills along its course, but is of most importance in its strategic value—placing the Baltic and White Sea divisions in direct communication on their own soil.

With the merchant marine of Russia, her contemplated canals, her finished Trans-Siberian Railroad, and her total independence of any foreign steamer, cable, telegraph, or rail, from the Baltic Sea to the North Pacific Ocean, one has a view of possibilities equally as great in peace as in war.

JOHN E. KEHL,
Consul.

STETTIN, *June 19, 1901.*

THE COTTON INDUSTRY OF RUSSIA.

The Russian Ministry of Finance has just published an interesting report furnishing statistics concerning the cotton industry of Russia, from which it appears that the quantity of cotton worked by Russian mills in 1899 was 16,000,000 poods (577,792,000 pounds)—5,000,000 poods (180,560,000 pounds) Russian and 11,000,000 poods (397,232,000 pounds) foreign—valued at 148,000,000 rubles ($76,220,000). The works employed over 6,000,000 spindles, 146,000 weaving looms, 109 spinning mills, and 118 weaving works, producing 14,000,000 poods (505,568,000 pounds) of yarn, valued at 248,000,000 rubles ($127,720,000), and 11,000,000 poods (397,232,000 pounds) of coarse stuff, worth 242.000,000 rubles ($124,630,000). These mills furnished employment for 170,000 workmen and 150,000 were engaged in the weaving works. The amount of capital invested is 267,000,000 rubles ($137,505,000).

The average number of spindles in each factory is 56,000, and about 102 pounds per spindle are used. The Russian working-day is a long one. Taking the number of working-days in the year as 285, the average number of working hours of one spindle was, in 1899, 4,503 per year, or 15.8 per day.

The average number of yarn manufactured in Russia equals 27; Nos. 30 and 34 of warp and 34 to 38 of woof necessary for the fabrication of coarse calico are in greatest demand. Although the manufacture of the higher numbers of yarn has made considerable progress in recent years, greater development is retarded by the high price of the weaving machines, which are almost exclusively imported.

There is a gradual annual increase in the number of looms, and while the law of 1897 decreased the number of hours each loom should be run, their productive capacity increases.

The development of the Russian weaving and dyeing production is sufficient to satisfy not only the national demand, but also that of the East. The Asiatic import of Russian cotton tissues increases yearly.

W. R. HOLLOWAY,
Consul-General.

ST. PETERSBURG, *June 20, 1901.*

IMPORTATION OF MACHINERY INTO RUSSIA.

The following is a translation of an article based on a report from the Dutch minister to Russia, published in a commercial paper in this consular district:

Notwithstanding the growth of the iron and steel production in Poland and Lithuania, this country still offers a good field for the importation of machinery.

The following figures are taken from official statistics for 1898:

From—	Locomotives.	Plows.	Thrashing machines.	Machine parts.
	Tons.	*Tons.*	*Tons.*	*Tons.*
Germany	992	6,910	1,279	75,616
Belgium	250	....	....	....
England	370	64	1,760	50,586
Austria-Hungary	684	473	700	9,094

The largest part of the machinery for the textile industry in Russia is imported from England, Germany, Austria-Hungary, and Switzerland. There are, however, in Lodz and Warsaw several large manufacturing plants producing machinery, which competes successfully with foreign manufactures, owing to the high import duties. Steam boilers are made exclusively by the factories in the interior.

Of late, orders for textile machinery have been given principally to German firms—first, on account of their low prices; second, owing to the facilities they grant purchasers, which consist not only of easy terms, but also in complying with the purchaser's special wishes.

The Austrian manufactures are spoken of highly on account of their finish.

As to agricultural machinery, considerable difficulty has been experienced of late years in obtaining a sufficient number of field laborers, and the farmers have been forced to make a larger use of machinery. This apparatus manufactured in Russia is not yet perfect, for which reason it is imported principally from Germany, but also from the United States, England, and Austria-Hungary.

S. LISTOE,
Consul.

ROTTERDAM, *June 7, 1901.*

PACKING GOODS FOR EXPORT.

Most United States goods sold in this district (Gera) are furnished by the large importing or commission houses at Bremen and Hamburg, whence they are forwarded by rail; the remainder is bought from wholesale houses at Berlin and Leipzig, the nearest centers of trade to Gera. Canned fruits, lard, bacon, hams, petroleum, resin, clover seed, stoves, typewriters, bicycles, sewing machines, apples, hardware, wood specialties, and agricultural machines are the chief articles of American manufacture that find a market in this part of Germany.

Railroad transportation, as far as protection of goods against damage is concerned, is satisfactory; in promptness, however, it is inferior to that of the United States. The storage warehouses are in excellent condition, and injury from the elements is a rare occurrence. The facilities for handling shipments are fair, and although much time is lost by impractical and unsystematic methods, it must be admitted that great care is taken to avoid damage. The laws on this point are very severe, and negligence is promptly censured.

Naturally, a great deal depends upon proper packing, and as this question is an important factor in the development of our foreign trade, the following information will no doubt prove of interest to American exporters.

In most European countries, great attention is given to good packing, as no matter how excellent the goods, they are sure to lose in value if badly put up. For dress goods, which form the bulk of the exportations from this district, strong boxes are made to hold a certain number of pieces. The goods are then packed in firmly, each piece being wrapped in strong glazed paper. The box itself is lined with oiled paper, so as to preserve its contents from dampness, and strapped with iron bands. Great stress is laid on durability and neatness, and old boxes are never used. For shipment to Africa and Australia, the pieces are wrapped in oiled paper and the cases lined with tin. The tin is carefully soldered to make it weather-tight. Merchandise packed in this manner may be sent to the most distant countries without damage. By some manufacturers, the covers of the boxes are fastened with screws to prevent theft. Nothing is neglected to insure arrival in good condition, and the neat and substantial way in which the goods are packed can not fail to make a favorable impression upon the purchaser.

In making shipments to Europe, our exporters should wrap their goods so as to exclude moisture, and pack them in strong wooden boxes. The boxes should be nailed with wire nails and strapped with iron bands. Goods in bales should be securely wrapped in oilcloth lined with paper, to prevent its adhering to the contents, and covered with strong canvas. The bales should then be pressed and hooped with iron. Economy of space is an important consideration. Special care should be taken by our manufacturers to wrap articles of cast iron so as to avoid shifting. On account of careless packing, goods of this class frequently arrive here either broken or rusty. The bottoms of the cases should be well fastened. Care is also necessary in driving nails, which are often found to have penetrated and damaged the contents of the boxes. Considering the distance the goods are transported and the amount of handling they receive, the packing is often sadly inadequate. As an illustration of this, a number of large American stoves were ordered by a local merchant, and upon their arrival some of them were badly broken and many of the smaller attachments—such as screws, knobs, etc.—missing. The stoves were packed in crates weighing over 400 pounds, which made careful handling impossible. The attachments, including the heavy lids, were put in the ovens loose, and shifted noisily about whenever the crates were moved. Of course, all orders were canceled.

Regarding our preserved fruits, I have been told again and again that they would sell much better if put up in glass bottles, even if the prices were a little higher. There is a great deal of prejudice against tinned goods, as it is believed they might be poisonous. Boxes of canned fruits should be banded with iron. The pine boxes used are not equal to the treatment to which they are subjected, and sometimes arrive in a poor condition.

Another American article which lacks the necessary care in packing is resin. The excuse that this article is very cheap, and for that reason does not warrant better packing, is not valid. Cheap packing in the long run is the dearest, owing to the losses sustained, while care in this respect will do much to enhance the value of an article in the eyes of the foreign purchaser.

I could name a number of other articles with the packing of which fault is found, but it is unnecessary. Suffice it to say that good packing of all kinds of American merchandise will tend to materially increase our export trade. It is conceded that our manufactures are superior to all others, and we only need to correct these minor faults to render our position in the mercantile world unassailable.

CHARLES NEUER,
Consular Agent.

GERA, *June 18, 1901.*

SUGGESTIONS FOR EXPORT OF IRONWARE AND MACHINERY.

The following suggestions for export of ironware and machinery were taken from trade papers and reports published in the interests of German exporters, and may be of value to our manufacturers:

STOVES IN BULGARIA.

Iron stoves, as reported by the Commercial Museum of Bulgaria, are coming in use more and more, having driven out of the market the tin-plated stoves, which used to be in great favor. Germany was the first country largely controlling that market, but has lately experienced formidable competition from Belgium and England.

AGRICULTURAL MACHINES IN RUSSIA, EGYPT, ALGERIA, AND AUSTRALIA.

The St. Petersburg Commercial and Industrial Gazette calls attention to the "Zemstvo's" direct purchase of agricultural implements and machinery. This institution, a combination of agricultural interests, sends out representatives to buy machinery in large quantities, and it would be advisable to seek direct connection therewith.

As to Russia's import of tools, Germany furnishes the cheaper and medium grades, while the best qualities come from France and England. Pitchforks, spades, etc., are very rarely imported, although the home industry is not able to supply the market to its full extent.

A British consular report from Alexandria says that, with the great progress made in cultivating farming land in Egypt, a greater demand for agricultural implements is to be expected.

Farmers are finding out the advantages of improved farm machinery, having in use already a number of thrashing machines.

The increase in the import of agricultural implements into Algeria is due to the large number of settlers emigrating to that country, and the French are making great efforts to drive America and England out of the market in this line.

Manufacturers desirous of selling their agricultural machines to Australia are recommended to follow the example of Americans—having their machines set up and tried by a representative. English firms are beginning to adopt this method. Soils in Australia differ greatly, so that machines very useful in one region are altogether unserviceable in another.

IRONWARE IN ABYSSINIA.

Among the ironware used in Abyssinia, the British consul describes pans, diameter of 1 to 3 feet, about 4,000 being imported during the year, at a cost of 3 to 9 marks (71 cents to $2.14) each. These are mostly furnished by India and Germany. Other articles imported comprise files, nails, penknives, padlocks, screws, saws—all together to the value of about 15,000 marks ($3,570).

CUTLERY IN MOZAMBIQUE.

The British consul at Mozambique reports that Germany supplies the country with cutlery, England not being able to furnish as durable goods at the same prices. The natives care less for the appearance than for durability.

MAX BOUCHSEIN,
Consul.

BARMEN, *May 15, 1901.*

GOVERNMENT RAILWAYS IN EUROPE.

Dr. A. von der Leyen, a railroad expert, has published an article in the June number of the German Review, concerning the management of the Government railroads of Prussia.

He demonstrates that the example of Prussia in buying the private railroads and running them on Government account has contributed to popularize this system in other countries, and states that not only have the other German states followed it, but that almost all the other European countries have purchased the existing railroads.

The Austrian Government railroad net has to-day a mileage of almost 6,300 miles; that of Hungary, about 8,150 miles. Since 1882, a great change has taken place in Russia; of the then existing 14,000 miles of railroad, only about 40 miles were owned by the Government. The total mileage in 1897 was about 24,300 miles, of which 15,780 miles belonged to the Government. To this must be added the Government railroads in Finland and Asiatic Russia, the Trans-Caspian and the Siberian railroads.

The Servian, Roumanian, and Bulgarian railroads are owned exclusively by the respective Governments.

Of the northern European kingdoms, Denmark has a Government railroad system of 1,167 miles and 525 miles of private railroads.

Norway's railroads belong almost exclusively to the Government.

Sweden has 2,303 miles of Government and 4,387 miles of private railroads. The Government has not yet succeeded in acquiring the latter, although efforts have been made to do so.

Belgium, in 1898, through the purchase of the Grand Central Belge and some minor private roads, became the possessor of the whole Belgian railroad system.

Holland acquired all the remaining private railroads in 1890; they are, however, operated by two private companies.

The Italian Government purchased all private main railroads of Italy in 1885 and leased them for twenty years to private corporations. Mr. Von der Leyen states that both the last countries have had unpleasant experiences with this arrangement.

Switzerland, after long discussion, resolved by federal law in October, 1897, to gradually purchase all the private railroads. On January 1, 1901, the first federal railroads were operated by the Government.

By agreements of 1883, the six large French private railroads had their rights recognized by the Government, and no change has been made in the policy in that country. The relatively small Government railroad system, located between the Orleans and the Western railroads, has remained intact. As the private railroads, however, have received large subsidies from the Government, and as they will revert to the State in the second half of the present century, they can hardly be considered purely private railroads.

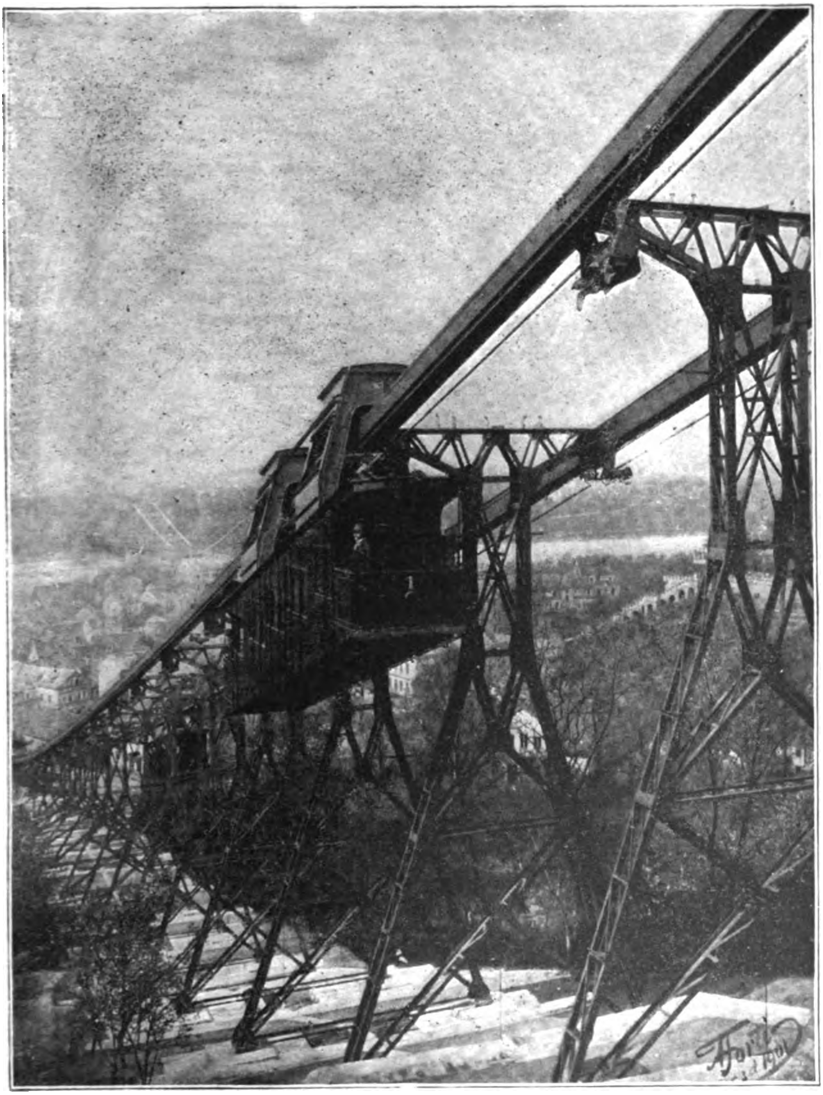
Of the countries which have a private railroad system exclusively, only England and the United States remain, and the writer remarks that it would not seem that this condition will soon be changed. He adds that it would be difficult to prove that the railroads of these two countries show more efficiency than the continental ones. To an American traveling in Europe, however, it is apparent that as far as comfort and convenience are concerned the American railroads are far in the lead, and the English come next.

RICHARD GUENTHER,
Consul-General.

FRANKFORT, *June 13, 1901.*

SUSPENSION RAILWAY AT LOSCHWITZ, SAXONY.

This new railway was opened to traffic on May 6, and is, I am informed, the first mountain railway of its kind in the world for the conveyance of passengers. It runs from Loschwitz, a village on the banks of the River Elbe about 5 miles from Dresden, to the top of the Rochwitz heights, which command a most beautiful view of the Saxon capital. The railway is 250 meters (820 feet) long, with



LOSCHWITZ MOUNTAIN RAILWAY.

Consular Reports No. 252—face page 58.

a gradient of 32 per cent, and is constructed according to the "Langen" system. Thirty-three iron piers of different height, weighing about 300 tons, the highest being 15 meters (49.2 feet), carry the rails on which the cars are hung.

Each car holds 50 passengers, and weighs, when occupied, 12.8 tons. Their shape and construction differs entirely from all other railway cars, and even from those used by the Barmen-Elberfeld suspension railway. A steel cable 44 millimeters (1.7 inches) in diameter connects the two trains and locks them firmly together. It is operated by two powerful machines of 80 horsepower each, stationed at the top terminus of the road. The cable has a strength of flexure of 95,000 kilograms (209,437 pounds). Particular attention and care has been given to devices to insure the safety of the passengers and to regulate the running of the cars. A most ingenious signal system—with visible and audible signals—serves to regulate the arrival and departure of the trains, and is operated from both the lower and upper stations. Each car is provided with a danger-signal apparatus, consisting of an alarm and a telephone, which enables the conductor to communicate from any point of the road with the engine house. The car is provided with three brakes—system Bucher-Dürer—two of which work automatically at the least slackening of the tension of the cable and stop the car. The third brake can be operated by hand from the platform of the car. From a hand attached to the disk upon which the cable is rolled, the engineer can always determine the exact position of the cars on the road, and an automatic bell warns him if the train is running too fast.

The greatest safety consists in an automatic brake, both at the lower and the top station, which is put into action by the arriving car and stops it, no matter how careless the engineer may be.

The fare is 20 pfennigs (4.76 cents) up and 10 pfennigs (2.38 cents) down; return ticket, 25 pfennigs (5.95 cents). Reduced rates are allowed institutions, societies, school children, laborers, etc. The journey takes three minutes, and 15,500 passengers can be carried each way per day, or a total of 31,000.

The iron work and cars were supplied and the construction superintended by the Maschinenbauactiengesellschaft, Nuremberg, Bavaria, and the road is the property of the "Elektra" Aktiengesellschaft, Dresden.

The accompanying photograph gives a clear illustration of the new suspension railway.

CHAS. L. COLE,
Consul-General.

DRESDEN, *May 17, 1901.*

THE INDUSTRIAL SITUATION IN GERMANY.

The spring failed to infuse new life into German industry, which has been very sluggish during the last six months. Now that the military operations in the Far East have ceased and the outlook for peace everywhere has become brighter, it is hoped that business will soon improve. Mr. Ballin, the general manager of the Hamburg-American Line, who has just returned from a trip around the world, is endeavoring to arouse hope for the increase of German trade by calling attention to the new markets to be opened in China, especially in the vast and important valley of the Yangtze Kiang. However, the more conservative do not place much confidence in these prognostications. It is pretty generally acknowledged that the present industrial crisis was caused mainly by overproduction in Germany and in other manufacturing countries. Industrial pursuits, as is well known, are dependent one upon the other, and if there is a check in one branch it is felt elsewhere. Thus, when the textile mills for spinning cotton and woolen yarns are run on short time, but little machinery for such mills will be in demand; when no machinery is built, the iron works shut down; and when no iron is ordered, the coal mines are idle. As soon as one part of the industrial body becomes diseased, the entire system must suffer.

Much is hoped from the commercial treaties now under discussion. I find that, generally speaking, those interested in trade and manufacture in Germany are in favor of long-time commercial treaties, arguing that these would be the best means of removing from the markets of the world the risks brought on by instability and constant changes. In this connection, it is generally stated that the increase of German commerce by about $1,000,000,000 during the past ten years was brought about chiefly through the long-time commercial treaties with other nations.

The coal industry in Germany hoped early in the season to derive great advantages from the export duty which the English Government put on its coal. It was expected that this measure would bring on many strikes, thus vastly reducing the output of English coal and increasing the demand for the German article. But these expectations failed to be realized. There is but little demand for coal at present, and the stocks in the coal yards are increasing to an alarming degree. The syndicate has succeeded in keeping up prices fairly well, but it is believed this can not last much longer. In the iron industry, the difficulties in the main have grown, rather than decreased. It is true some large orders have been placed, and much activity has been shown in certain quarters in order to deliver on time, but such orders were few and they had been kept back to the last moment, because everybody knew that they could be filled at once, and by waiting to the last moment there was always a chance of cutting prices. The same condition prevails with the manufacturers of machinery, many of whom have been obliged to discharge their men, while others have had to reduce the time of running their works.

Unusually gloomy has been the condition of affairs in the textile branch of German industry for the past twelvemonth. In a convention of iron men recently held, it was ascertained that in 65 mills in southern Germany with 37,142 looms, not less than 6,183 looms were idle. It was at once resolved to reduce the output and to induce other districts devoted to spinning and weaving to do the same thing. This has been done, but in spite of all efforts the general situation has not improved. The prices for manufactured goods are dropping and orders are very slow in coming, because everyone feels that he may look for still lower prices. This situation prevails in all branches of the textile industry, including the knitting mills. In some manufacturing towns of Saxony, which had been kept very busy for the past ten years, one-fourth of the looms and other machinery are now idle. In some of the factories for lace curtains, the men work on half time only, and must be content with wages of 8 to 10 marks ($1.90 to $2.38) per week. Even the lace-trimming district in the Erzgebirge is suffering more than it has for years.

The great German industry in chemicals, which for years was exceedingly prosperous, is now beginning to complain of lack of orders and poor prices. The same is true of the large electrical enterprises, which considered themselves beyond the reach of hard times. With the advent of spring, it had been expected that, as is usual at this time of the year, a great impetus would be given to building; but these hopes have also been doomed to disappointment, and thousands of foreign mechanics and laborers, who annually flock to this country at this season, have been compelled to return to their homes. The factories of cement, too, in spite of their abundant capital, have encountered many difficulties, and the failure of the Reichstag to pass the canal bills has not brightened their prospects. The manufacturers of glassware and furniture, in various districts, find it extremely difficult to employ help, even with wages and time much reduced. In consequence of this condition in almost every branch of German industry, many laboring men, especially those with families, barely succeed in keeping body and soul together; while the monthly reports as to the number of men who are idle and seeking employment are alarming. In addition to all this, Germany must be prepared to harvest the poorest crops it has had in many a year. Altogether, the business situation in Germany is beginning to be very much as it was with us from 1893 to 1897. It is to be hoped that these conditions have already reached their climax. Should they continue much longer, however, it is to be feared that the falling prices, reduced wages, and accumulations of stock will seriously affect our trade with this country.

HENRY W. DIEDERICH,
Consul.

BREMEN, *June 10, 1901.*

THE STRUGGLE FOR INDUSTRIAL SUPREMACY.

The following has been received from Consul Mahin, of Reichenberg:

Under the above title, Dr. Alexander von Peez makes a noteworthy contribution to the Munich Allgemeine Zeitung. "Not China and not the Transvaal war," he declares, "but the race between the great industrial countries—England, Germany, and the United States—forms to coolly calculating politicians the foremost, weightiest, and most-enduring interest of the future. Slowly has England grown commercially, more rapidly has Germany risen after gaining political unity and establishing the protective system, but like a storm is the forward movement of the United States."

After reviewing the progress of England and Germany in commerce and manufactures, Dr. Von Peez passes to the United States, "rising in the New World with sinister rapidity." He says:

> Its nationality has its roots in Germanic traits. It received, either from its Celtic mixture or as a characteristic of American soil, its qualities of unrest, assertiveness, and unexpectedness in action. The American has had the good luck, besides, to draw to himself from his two competitors a share of their own skill and of their own acquisitions, through emigration from Germany and England. From the combination of all these qualities has resulted the undoubted superiority of a mighty land, stretching from ocean to ocean, full of coal and iron and treasures of the soil, inhabited by a trained, numerous, and daring people, spiritually and morally undistracted, and ardently devoted to their various pursuits.
>
> The three competing countries now suffer from obstacles which hinder their free movement. Germany has China, England the Transvaal, America the Philippines. From appearances, the United States will be the first to throw off its burden. After that country shall be free from the Philippine war, its industrial advance upon Europe will be fully manifested.

Dr. Von Peez then considers the various commercial treaties and tariff systems of the European countries, specially noting their defects, and concludes that upon the termination of existing commercial treaties, the relations of European nations to the United States should be carefully studied, with a view to reciprocity in tariff duties and other international dealings. The United States displays a consciousness of victory, he avers. It designs to bring agriculture, as well as manufacturing, to the highest possible state of development. In marked contrast with Germany and Great Britain, which are both great markets for the farm products of other lands, the United States shuts out any possibility of that nature. Commercial treaties with that country have therefore, in this regard, no value. What America can accomplish on agricultural lines has been sufficiently shown since 1880. The present shattered condition of European agriculture is mainly her work. Now, she contemplates war with other European industries, having already sent out an advance guard of coal, iron, steel, and machinery.

Equally strong in manufacturing and agriculture, and pushing her exports with great energy, the United States is now absorbing Europe's money. The cash balance in her favor in the last three years amounted to $1,600,000,000. Through this, that country can exercise a very important influence on Europe's rate of interest.

After enumerating a variety of manufactured wares which our country is sending to different parts of the world, Dr. Von Peez exclaims:

> And with all this, the United States has not yet unbuckled one piece of the almost impenetrable armor in which she is incased, while demanding open doors of others everywhere. Our opportunity comes with the commercial treaties. What should first be done in defense is to follow the example, in regard to tariffs and trade treaties, which the United States has set for us. At the European seashore (England is included herein), a tariff should be established counter to that of the Union, while the European nations should arrange tariffs touching each other which would not materially differ from those now existing. But only the restoration of the tripartite imperial alliance would offer all those guaranties which are requisite in a matter of such great importance. It is probable that the yet powerful but much-threatened Great Britain would not remain far from such a union.
>
> What will the United States do? That is her affair. We only follow her example. Perhaps she will propose an understanding. But what says Ranke? "It is not in the nature of predominant forces to restrict themselves; boundaries must be established for them." A people so young, acute, and rich in future possibilities as the citizens of the Union will find boundaries to their aspirations only when they see that attempts at further conquest will be met with vigorous resistance.

RECENT CHANGES OF CLASSIFICATION UNDER THE GERMAN TARIFF.

As examples of the exceeding sharpness with which the German customs officials are now scrutinizing imports of manufactured merchandise, the following rulings and reclassifications of recent date will serve to illustrate what may happen whenever any manufactured article is made of two or more component materials.

There is a certain snap hook known to the trade in America as the "Covert snap," in German as "Carabiner Haken," which is made of malleable steel or iron, coated with tin. These have been imported for years under a duty rate of 10 marks ($2.38) per 100 kilograms. The snap hook has a latch in the form of a sliding bolt, which is thrown by a small spiral spring of brass or bronzed wire, wholly concealed within the shank of the hook. Recently, some zealous inspector has dissected one of these snaps, removed the bolt, and discovered the hidden brass spring, which forms perhaps one-fortieth of the whole weight of the article, whereupon the Covert snap has been reclassified as brass goods, dutiable at 24 marks ($5.71) per 100 kilograms (220 pounds), which is said to be practically prohibitory in face of domestic competition.

Another case of reclassification is that of American ice-cream freezers, which, being superior to anything of similar nature made in Europe, have of recent years found a large and increasing sale in Germany. They are made of wood, hooped, bound, and otherwise equipped with iron, and have hitherto been classified for duty as "ironware in combination with wood" (Eisenwaaren in Verbindung mit Holz) and dutiable at 10 marks ($2.38) per 100 kilograms.

Recently, however, the same ice-cream freezers have been reclassified as wooden ware in combination with iron, which makes wood the component material of chief value and raises the duty to 30 marks ($7.14) per 100 kilograms. These changes are noteworthy, not because the reclassified duties are abnormally high, but to show the importance to American exporters, before contracting to deliver large quantities of manufactured goods in Germany, of ascertaining by actual trial how they will be classified on passing the German custom-house.

These sudden changes, and the similar ones which have been previously reported, have had the natural effect of rendering German merchants timid about giving large orders for foreign goods which are necessarily made of several component materials.

FRANK H. MASON,
Consul-General.

BERLIN, *June 15, 1901.*

MERCERIZED COTTON IN GERMANY.

A German chemist and an Austrian mechanical engineer have invented an improved mercerizing process, and have obtained letters patent in all countries. They mix copper, ammonia, and cotton waste in a large vat. In about six hours, a liquid of dark-blue color is formed, which passes into a large filter press, and then out of small glass tubes through a mild sulphuric-acid bath. It is then of a gelatinous consistency, and is caught by a small glass rod, in the hand of a boy or girl, and reeled onto a large glass spool, as it passes through the bath. The copper and ammonia, together with other chemicals, are deposited as a sediment, and are used again. As the threads are reeled, they receive a bath of cold water from a siphon. The numerous spools center on one large spool, and are then reeled onto another, and so on, always under cold water, until all chemicals and acids are removed. This stage of the process takes four hours. The thread is then taken to a drying room.

A corporation has been formed, with a paid-up capital of 2,000,000 marks ($476,000), called "Vereinigte Glanzstoff Fabriken;" it now has in operation a factory employing 400 hands, in the village of Dremen, 10 miles from Aix la Chapelle, and a factory employing an equal number of hands at Mülhausen, Alsace, Germany. My observation, while visiting the factory in this district, was that the employees were nearly all boys and girls, or unskilled labor. At present, I am informed by the inventors that they are unable to fill all the orders. They began exporting to the United States this year.

The product is brilliant in color and finish and of considerable textile strength. The thread consists of ten or twenty fibers twisted into one, but can be made of any desired thickness. They also make a thread called "horsehair artificial silk." The machines are small and compact, and are operated by ingeniously applied electric power; each machine can be started or stopped without interference with the others.

The factory is built on the bank of a small stream, which furnishes water power to run a large dynamo, the force being then distributed to small batteries on each machine. They are now manufacturing 600 pounds daily.

The present market price is about 60 per cent that of silk. The manufacturing rights for France have been sold for $300,000. I understand that negotations for the purchase of the United States patent are under way. I send herewith samples, which may be of interest.*

FRANK M. BRUNDAGE,
Consul.

AIX LA CHAPELLE, *June 8, 1901.*

THE MANUFACTURE OF BRONZE POWDER IN GERMANY.

One of the most important and interesting of the special forms of manufacture, for the product of which the United States is dependent upon Germany, is that of bronze powder, the shining metallic dust which is used for producing gilt and bronze effects in wall papers, letterpress printing, lithography, mirror and picture frames, fresco painting, and the artistic decoration of a vast range of manufactured articles in wood, paper, and various metals. For all these purposes, bronze powder offers the cheapest and most effective means of giving a surface effect of gilt or bronze, and its use has expanded with the rapidly increased production of articles of luxury and taste.

---

* Filed in the Bureau of Foreign Commerce, where they may be consulted by interested parties.

The principal seat of the bronze-powder manufacture is the city and vicinity of Fürth, in Bavaria, where the requisite water power and other conditions are favorable, and the industry is in the hands of an exceptionally intelligent and enterprising class of men, who have invented new machinery and improved methods until the whole process of manufacture is now mature, ably managed, and successful. The material used is so-called Dutch metal, an alloy of copper and spelter, in which the relative proportions of these are varied to produce the different colors desired. The larger the percentage of spelter, the lighter or more yellowish will be the tint of the alloy. The manufacturing process divides itself into two stages or branches, which are usually carried on in different establishments, viz, the preparation of leaf metal and the reduction of clippings of that material to the form of powder by milling.

The copper and spelter are smelted together in graphite crucibles, which are inserted in a large furnace heated by a strong coke fire. The crucibles contain about 400 pounds of metal, and when their contents are completely fused, they are run off into molds, which form half-round ingots 2 feet long by half an inch in thickness. After cooling, these ingots or rods are bound into bundles and sent to the rolling mill, where they are passed cold nine times through a double set of steel rolls under powerful pressure, by which they are flattened and drawn out into thin ribbons from 50 to 60 feet in length and something more than 1 inch in width. Cold rolling under such extreme pressure has the effect of rendering the metal brittle, and it therefore passes at this stage to the annealing furnace, which is heated by wood fire, as the sulphur in coal or coke would be injurious to the ribbons; which, having been softened and rendered ductile by annealing, are cleansed in an acid bath, cut into lengths of about 3 feet, and collected in bundles of 40 or 50 strips each. They are now laid between sheets of zinc, which are fastened together and passed under slinging hammers worked by water or steam power, by which the metal strips are beaten to a thickness of tissue paper. This process includes six successive beatings, and requires great skill on the part of the operatives to produce a uniform and unbroken foil. After the third beating, the metal strips are taken from between the sheets of zinc, loosened from each other, and cleansed by immersion in a bath of tartrate of potassium. This cleaning is repeated after the sixth and last beating, and the sheets, thus cleansed from oxide and other impurities, are hung upon lines to dry. At the beginning, the rolled strips are of a dull-gray metallic color; at the fourth beating, the yellowish color begins to show; and after the sixth, they are clear and bright as gold.

In view of the great variety of purposes for which bronze powder is employed, it is graded in respect to color into seven qualities or tints, ranging from bright copper red to golden yellow. These successive tints are governed by the relative proportions of copper and spelter used in making the alloy, which are as follows:

Color.	Parts copper.	Parts spelter.
No. 1	350	36
No. 1½	330	52
No. 2	330	62
No. 3	310	70
No. 4	310	90
No. 7	300	112

In the foregoing description, the material had reached the condition of thin sheets of leaf metal, 3 feet in length, widened by hammering between zinc plates from 1 inch to an average width of 8 inches. These, having been cleaned and dried, are carefully assorted, the defective leaves thrown out as waste or inferior material, and the perfect ones cut into small squares, which are laid together by hand in packets of several hundred each and inclosed within an envelope of sheet brass. Thus held together and protected, the packets are returned to the annealing furnace, where they are softened by heating and slow cooling, and then go to the beaters, where they are reduced, under flattening hammers, to the thinness of real gold leaf—so thin that it can be blown away by the breath. This completes the preparation of leaf metal, the finished material for bronze powder and other purposes, of which there are not less than a hundred manufacturers in the city and district of Fürth. This part of the industry dates from the sixteenth century, and has been built up by many generations of patient and skillful beaters of gold, silver, copper, and other malleable metals.

The manufacture of bronze powder consists in grading, clipping, and pulverizing the various bronze foils to an even, impalpable powder, and is an industry of comparatively recent date. The present perfection of methods and product has only been attained during the past thirty years. It began as a means of using up and utilizing the imperfect leaves which came as waste from the beaters of gold, silver, and bronze. These were cut by hand into fine clippings and then ground to powder in handmills of simple construction. With the lapse of time and the spread of artistic industries, the uses of will use only the American product at almost any price. My bootmaker recently showed me the difference between American and German finished leather. The distinction was at once apparent; the American skins were soft and pliable, while the German leather was harsh and thick. Also in patent leather, only the American make is used by the best bootmakers, both for ladies' and gentlemen's wear.

The question naturally arises: Can not the German leather manufacturers copy our methods? Yes; but unsuccessfully. German leather manufacturers have sent skilled workmen to the United States to study our methods; have built factories entirely on the American plan, but in spite of all, do not turn out an article that can compare with ours.

At present, there are no direct representatives of American leather houses in this city, although the local leather industry is very important, and bootmakers are compelled to draw their supplies from Hamburg and Strassburg. In my opinion, a paying agency could be established in Mainz, to supply the demand of this section of the country, especially as the transportation facilities are exceptionally good and cheap.

WALTER SCHUMANN,
Consul.

MAINZ, *May 22, 1901.*

MARKET FOR BLOTTING PAPER IN GERMANY.

American blotting paper has won admiration of all who have used it, and if proper business methods were adopted an extensive trade in this article could be built up here. To acquire this market, I would suggest that instead of printing American trade terms on the samples, the metric system of weights and measures be used. Before me are samples of 19 by 24 inches, 120 pounds, 500 sheets to the ream, American blotting paper. If these samples were so labeled that every German printer or stationer could easily understand them, I am confident that considerable business would result.

The following form, in German, is suggested:

Lösch Papier, Muster AA1.
Länge, 60 ctm.
Breite, 48 ctm.
Netto Gewicht von 500 Bogen, 54 kilo.
Farbe nach Belieben.
Preiss pro kilo., inclusiv packung und frei an Bord Schiff, New York.

Samples of white, red, buff, gray, and pink of each weight should be sent.

The German import duty on blotting paper is about 1$\frac{1}{10}$ cents per pound, or 10 marks ($2.38) per 100 kilograms (220.46 pounds). If packed in cases, a tare of 14 per cent of gross weight is allowed; if in bales, 6 per cent.

German blotting paper sells at from 60 to 70 pfennigs (14.2 to 16.6 cents) per kilogram (2.2046 pounds). Compared with the American make of the same thickness, the German article is considerably heavier. This is due to the liberal use of chalk.

JOHN E. KEHL,
Consul.

STETTIN, *May 10, 1901.*

OBSTACLES TO AMERICAN BICYCLE TRADE IN FRANCE.

This office is in receipt of a letter from a United States trade journal, which says that the sale of American wheels in Europe fell off 60 per cent during the past year, and that our lead of $2,000,000 over Great Britain and Germany dwindled to $300,000. As one means for remedying this condition, I would say that the oft-repeated advice of American consuls and of dealers in American wheels outside of Paris should be taken more seriously. The merits of the leading American wheels are well known in France, but if the complaints concerning the handling of these wheels are well founded, it is little wonder that the sales have decreased. Instead of placing the wheels in the hands of a Paris agency, which retains a commission, goods should be sent direct to responsible dealers in all the leading cities in France, at prices that would enable them to be retailed at 250 to 300 francs ($48.25 to $57.90). If they must pass through the Paris agency, the retailer in the other cities should be given the wheels at a much lower price than at present. The idea that the superiority of the American wheel is a sufficient inducement to cause Frenchmen to buy it is a great mistake. In consequence of the increased use of automobiles in France, special inducements should be held out to those who are favorably inclined toward American bicycles. A leading dealer in this city showed me a number of wheels fitted with uneven French tires, instead of the neat tires usually found on American machines. He says the tires are placed on the wheels in Paris, and that it is not possible for him to buy American wheels such as he wishes to sell, unless he takes them equipped with these inferior tires. He also claims that foreign brakes are being placed upon American wheels. It is like a man ordering a pair of fine boots upon which are fastened cheap, uneven soles. Place American wheels in the hands of the retailer, enable him to sell them at a reasonable price with a fair profit, and furnish him with American supplies so wheels may be repaired when necessary and the trade in France will increase.

JOSEPH I. BRITTAIN,
Consul.

NANTES, *May 14, 1901.*

FRENCH OPENING FOR SPRAYING MACHINES.

Referring to my report* on the decrease of olive culture in southern France, I would note that propositions for parliamentary aid for the olive crops have been made by the senator for Nice. He says that up to 1860 this was the most important product of these regions, and the crops were worth from 10,000,000 to 20,000,000 francs ($2,000,000 to $4,000,000, in round numbers). A gradual diminution has since occurred, until in 1899—a very bad year, it is true—the value of the crop was but 150,000 francs (about $30,000). The cause has been the ravages of the olive fly and the black blight. The senator complains that no concerted measures have been taken to combat the destruction of the olive plantations, and states that one obstacle is the high price of spraying machines, capable of spraying with economy of liquid to a height of from 30 to 45 feet.

I think I have seen advertisements of American spraying machines which are intended to reach the highest fruit trees, which cost a very moderate sum. If manufacturers of such articles will send me their catalogues and prices of all such appliances, I shall have them forwarded to those interested, with a view to introducing them into this market.

HAROLD S. VAN BUREN,
Consul.

NICE, *June 18, 1901.*

IMPROVEMENTS OF THE RIVER LOIRE.

For the past fifty years, the subject of improving and deepening the channel of the River Loire has been discussed, not only at Nantes, but by those engaged in commerce in the various cities along the river from its mouth, at St. Nazaire, up to Orleans, in the Department of Loiret, a distance of about 180 miles. Back in the days of flat-bottom boats, an immense amount of commerce was carried on upon the river from Nantes to Orleans, while vessels of deeper draft came up as far as the former city. After the building of the Orleans Railway, which parallels the Loire, interest in river navigation somewhat subsided, and the ever-shifting sands soon rendered navigation above Nantes almost impossible. This deprived the people of the Upper Loire of cheap freight rates. The river from Nantes to the sea, a distance of 35 miles, was also partially neglected, making it impossible for vessels, excepting those of shallow draft, to come up as far as this city. The business element, realizing the situation, started an agitation which resulted in the construction of a maritime canal, extending from Pellerin to Migron, near Paimboeuf, a distance of 12 miles. This canal cuts off a shallow bend in the river. It was completed in 1892, and has a depth of 6 meters (19.7 feet) of water, corresponding with the depth of the river from St. Nazaire to the canal and from Pellerin to Nantes. Its construction has proved to be of great commercial value to Nantes. The canal was opened in the month of September, 1892, six vessels passing through it that year. Since then, the number has steadily increased each year, 312 vessels having passed through the canal in 1900, being an increase of 40 over the previous year and 105 over 1898. The port tonnage for the same period has increased from 543,221 tons in 1890 to 1,000,000 tons in 1900. Last year, the tonnage of Nantes and the subports of the city amounted to 2,243,049 tons.

---

*ADVANCE SHEETS No. 1065 (June 18, 1901).

The improved commercial condition of Nantes resulting from the construction of the canal has awakened deeper and more extended interest in the further improvement of the Loire. This interest has become national, and now the cutting of the channel to a depth of 8 meters (26 feet) from Nantes to St. Nazaire has been determined upon. When the river channel has been deepened, the canal will be abandoned, as vessels may then come up to Nantes in much less time than by passing through the canal. The expense of deepening the river is estimated at 22,000,000 francs ($4,246,000). The Government will pay one-half the amount necessary, and the other half will be borne equally by the conseil-general of the Department of Loire Inférieure and the Nantes Chamber of Commerce. The work will probably occupy two years, at the expiration of which time the new entrance to the harbor at St. Nazaire will have been completed. This new entrance will permit large steamers to enter the docks direct from the bay without first passing into the River Loire, as necessary at present. Two jetties, 1,625 feet long, consisting of solid masonry, have been built out into the bay, and will put the locks in communication with the roadstead. The passage between these jetties will be 390 feet wide and of the same depth as the locks. With the new entrance to the St. Nazaire Harbor, there will be 27 feet 8 inches of water three hundred and sixty-five days each year.

In connection with the deepening of the channel of the Loire from Nantes to St. Nazaire, extensive improvements have been commenced at Nantes. Mabon Island, which has retarded navigation in the north arm of the Loire, is being removed at a cost of about $800,000. The removal of the island will occupy about eighteen months' time. The channel will then be 600 feet wide, which will enable large vessels to turn with ease. There are now under construction 975 feet of new quays costing $400,000, which will give the city by the close of the year quays 21,000 feet in length. After the removal of the island, additional quays will be built along the south bank of the River Loire. The last-named improvement, together with the construction of a large freight depot, will necessitate a further expenditure of upward of $1,500,000.

Since the construction of the maritime canal in 1892, the city of Nantes has taken on new life. Numerous large manufacturing establishments have been erected, including extensive chemical works, paper mills, phosphate works, flour mills, shipbuilding yards, etc. Several miles of new tramway lines have also been built and a number of new streets opened up in the city.

Recent surveys of the River Loire have also been made from Nantes to Orleans, with a view to deepening the channel. The estimated cost of this work is $26,000,000. This would establish connections with canals extending to more distant parts of France. The deepening of the channel as far as Angers, 45 miles above Nantes, to a depth of 6 meters (19.7 feet) has been practically determined, and the improvement of the balance of the river will doubtless follow. A congress to consider the matter is now in session at Orleans.

JOSEPH I. BRITTAIN,
Consul.

NANTES, *June 28, 1901.*

UTILIZATION OF WATER POWER IN AUSTRIA.

During the consideration of the subject of water power, at a recent meeting of the Lower Austrian Industrial Union, figures were produced and instances cited to prove that water power was cheaper to establish and much cheaper to operate than steam power, and that the general utility of the former was substantially as great as that of the latter. The following test case in the Tyrol was mentioned:

A factory was equipped with both water and steam power, of the same volume. The first cost 1.60 florins (65 cents) per horsepower and the latter 1.80 florins (73 cents). In the cost of operating, however, the difference was great. With water, the expense was 0.174 kreutzer (0.07 cent) per horsepower per hour; with steam, 1.266 kreutzers (0.61 cent). The saving in a year by the use of water amounted to 502,000 florins ($203,812), representing in Austria a capital of 10,000,000 florins ($4,060,000).

Another Austrian water-power plant mentioned operates an electric establishment which lights a town 11 miles distant. Power is also cheaply supplied to several neighboring factories. This plant was established in 1897, and the effect has been to give renewed industrial life to that locality. Its operating cost is 0.16 kreutzer (0.065 cent) per horsepower per hour.

Other instances were also given, among them that of a water motor of 15,000 horsepower now being erected. This will operate a number of factories, several of which are at present under construction. The price charged will be 80 crowns ($16.24) per year per horsepower.

Water power is a highly important factor in cheapening the cost of manufacturing in Austria. Especially is this true in this consular district, where mountain streams abound, all of which are utilized in turning the wheels of industry at a nominal cost. The consideration of water as a motor power is just now of special interest in Austria, on account of the high price of coal.

FRANK W. MAHIN,
Consul.

REICHENBERG, *May 11, 1901.*

DRAINING THE ZUIDER ZEE.

Consul Hill writes from Amsterdam, May 14, 1901:

A measure has been proposed in the States General of the Netherlands to close the Zuider Zee by a dike running from the North Holland coast to the island of Wieringen and thence to the Frisian coast, and to drain parts of the closed sea. The plan involves the recovery in eighteen years of 46,500 hectares (114,901½ acres) of fertile land. The railway distance between the provinces of North Holland and Freisland will be shortened by 31 miles. The indemnity to be paid to the Zuider Zee fishermen is estimated at 4,500,000 florins ($1,809,000). The total cost is estimated at 95,000,000 florins ($38,190,000). It is intended to call this twelfth province of the Netherlands Wilhelminaland.

The following additional details are supplied by Consul-General Guenther, of Frankfort, under date of May 8, 1901:

The large bay formed by the North Sea in the coast of Holland, called Zuider Zee, has for centuries been of more harm than profit to the people. Navigation is hardly possible, and it frequently suffers from floods, the shores being converted into swamps. The southern part will be drained by the erection of a levee about 19 miles long and 6½ feet wide, constructed in an average depth of water of between 11 and 12 feet.

The levee will be about 18 feet higher than the level of Amsterdam, and will be capable of resisting the force of the waters even during the most violent storms.

Four other levees will be built in order to make four large inclosures, which will afterwards be freed from water.

It is estimated that it will take from thirty to thirty-five years to complete the work, and some 500,000 acres of soil will be reclaimed, valued at $160,000,000. The damage which has periodically been done to the shores of the Zuider Zee will also be obviated. At the breaking of the levee in 1885, 371 lives were lost, and a damage of 14,000,000 florins ($5,628,000) was caused to buildings and agricultural products.

NEW METHOD OF CONSTRUCTION IN THE NETHERLANDS.

The "Amsterdamsche Fabriek van Cement Yzer Werken" has furnished this office with the following description of a new system of construction, which is used in the new Postal Savings Bank building of this city, now approaching completion:

In the "Monier" system of building, an iron framework (looking much like a bird cage) is entirely enveloped in concrete of Portland cement, which prevents the iron from getting rusty and at the same time renders the concrete elastic. The iron, or rather steel, acts entirely in tension; the concrete, in pressure. This construction is at once strong, fireproof, and waterproof, and entails no outlay for repairs.

Patents have been taken out in various countries, and in Germany a joint-stock company, with a capital of 2,500,000 marks, has been formed. An establishment of concrete-iron works has been opened in the province of Zeeland, and another in Amsterdam, at Groote Wittenburgerstraat 108.

This company has made a number of experiments resulting in the application of the ⊥ construction, described as an economic substitute in many cases for T constructions, generally used heretofore.

Floors without beams measuring 7½ by 7½ meters (24.6 feet) and 8½ by 8½ meters (27.9 feet) have been constructed for the Postal Savings Bank at Amsterdam; and a floor of 300 square meters (3,228 square feet), constructed as a whole (with beams), is about to be made for a Government building at The Hague.

Complicated formulæ being required in the calculation of concrete-iron floors and beams, the directors of the company have had some graphic tables drawn up, which enable them to find at a glance the necessary data for the work. These calculations and tables are kept strictly secret.

This system is growing rapidly in favor in all European countries in the construction of government buildings and in manufactories. It is believed that in a comparatively few years it will have replaced brick, wood, iron, etc., in the building trade. The method is specially adapted for bridges.

The "Monier" system will undoubtedly meet with considerable success in the New World, as many tanks, etc., now made of concrete only could be conveniently constructed of concrete iron. The company wishes to extend its operations to America, and desires to cooperate with firms which would be willing to form affiliated establishments.

FRANK D. HILL,
Consul.

AMSTERDAM, *June 19, 1901.*

MANCHESTER EXPORTS TO THE UNITED STATES.

Consul Grinnell sends from Manchester, June 29, 1901, tables of the exports of cotton yarn, cotton velvets, cords, and fustians from his consular district to the United States for the first six months of the years 1900 and 1901, as follows:

Cotton velvets, cords, and fustians exported to the United States, first six months of 1900 and 1901.

Month.	1900.	1901.
	Yards.	*Yards.*
January:		
Dyed	445,024½	353,937
Undyed	713,177¼	452,702¾
Total	1,158,201¾	806,639¾
February:		
Dyed	470,843½	314,416¾
Undyed	865,937¾	713,484
Total	1,336,781¼	1,027,900¾
March:		
Dyed	639,086½	281,870½
Undyed	1,188,145½	590,215½
Total	1,827,232	872,086
April:		
Dyed	385,467¾	288,669¾
Undyed	830,972¼	497,383
Total	1,216,440	786,052¾
May:		
Dyed	530,147⅜	536,286½
Undyed	961,536	487,560¼
Total	1,491,683⅜	1,023,846¾
June:		
Dyed	710,383½	631,556½
Undyed	663,461¾	579,866
Total	1,373,845¼	1,211,422½
Grand total	8,404,183⅝	5,727,948½

Exports of cotton yarn to the United States, first six months of 1900 and 1901.

Month.	1900.	1901.
	Pounds.	*Pounds.*
January	290,342¼	199,654¼
February	330,655½	171,054¾
March	440,332	185,180
April	391,701½	156,445¼
May	390,032¼	180,184¼
June	363,709¼	170,864¾
Total	2,206,772¾	1,063,383¼

THE WORLD'S ALMOND CROP.

I have been able to secure some figures concerning the world's almond crop, excepting the crop of the United States, which may be of interest just now to our dealers and growers.

The following table, carefully prepared from figures furnished by various statisticians and experts, shows the approximate production of the various countries during the years 1899 and 1900, and the estimated production for 1901:

Country.	1899.	1900.	1901.
	*Tons.**	*Tons.**	*Tons.**
Bari (Italy)	12,000	1,500	15,000
Sicily	7,000	2,000	8,000
Majorca	5,000	2,000	4,000
Spain	5,000	1,500	4,000
Provence	1,000	3,000	6,000
Portugal	500	800	500
Morocco	2,000	4,000	3,500
Total	32,500	14,800	41,000

*Of 2,204.6 pounds.

The new sweet Palma and Girgenti almonds have been offered from Messina at $34.25 per 100 kilograms (220.46 pounds), gross weight, for October shipment. It will be seen that Bari (in the province of Apulia, Italy) is the principal almond market of Europe. Concerning the Bari crop, I have seen a letter from an authoritative source, saying that this year it will be the largest ever known—possibly as much as from 18,000 to 20,000 tons. This is due not only to the favorable season, but to the great increase in almond-bearing trees.

The most recent sales of Bari almonds, according to the reports received here, were at 85s. ($21.90) per cwt. c. i. f.

The Malaga crop is now virtually assured and will probably be the largest in several years. This refers to all the almonds marketed here, the two varieties of which are commercially known as Jordans and Valencias.

The Jordan almonds are grown in the provinces of Malaga, Granada, and Almeria, and are marketed exclusively at Malaga. Nearly the whole crop, which is variously estimated at from 80,000 to 120,000 boxes of 25 and 28 pounds each, is exported to England and the United States. These are undoubtedly the finest almonds grown in Europe.

The almonds known commercially as Valencias are grown in the provinces of Malaga, Almeria, Jaen, Cordoba, Huelva, Cadiz, Murcia, and Carthagena, as well as in Morocco. The principal market is Malaga. The most recent sales of these almonds from last year's stock were at 22s. ($5.36) per box of 28 pounds.

BENJ. H. RIDGELY,
MALAGA, *June 20, 1901.* *Consul.*

THE FOREIGN WALNUT MARKET.*

The export of walnuts from Marseilles to the United States is confined almost exclusively to nuts grown in the interior of the country, which seek this port because of its advantages as a shipping center. The trade is entirely in the hands of commission houses, and I ascertain that during recent years their business has been seriously injured by the increasing practice of American importers to deal directly with the grower in the interior, and to assume all the risks of unsatisfactory deliveries. Considerable quantities of shelled levantine nuts, most of which grow in Turkey, are imported into France, and are shipped to the center of the walnut-growing country, where they are consumed by the oil-crushing trade. In certain portions of the interior of France, walnut oil is preferred for table use, in the first place because it is cheap and in the second place because the consuming public demands it. Many small growers have oil presses and produce a sufficient quantity for their own use, but, as with everything else, the present disposition of those engaged in the trade is to concentrate the manufacture of oil in certain industrial centers, notably, Grenoble, where the business is conducted on a large scale; and as the French walnuts command higher prices than the levantine, it has naturally come about that quantities of Turkish nuts are imported into the Departments where walnuts are grown most largely, for the purpose above described.

---

* This report was made in answer to inquiries by a California association, which has received a copy.

The walnuts grown in the vicinity of Marseilles are small in size and inferior in quality. No effort is made to export them.

The value of exportations of nuts from Marseilles to the United States during a series of years is shown below:

Year.	Almonds.	Filberts.	Walnuts, shelled and unshelled.	Pistachios.
1895	$137,093	$3,949	$124,992	$576
1896	148,104	3,153	142,273	2,164
1897	105,118	2,121	185,428	....
1898	242,704	12,398	115,608	2,020
1899	183,103	20,731	119,815	578
1900	238,178	28,730	139,750	3,126

It is impossible at this time to forecast the probable crop of walnuts in France. The trees are now in flower. It may be said that up to the present time no injury by frosts, drought, excessive rains, or otherwise has been noted, and the conditions are favorable to an average yield. It is expected that a price for the new crop will be established in August, and that shipments will begin in September.

The best walnuts sold here are shipped from the Department of Isère, and are generically known as Grenoble walnuts. Marseilles also receives walnuts known as "Marbots," "Cahors," and "Cornes;" these being the three varieties most appreciated. They are generally shipped via Bordeaux.

Grenoble walnuts are not prepared for the market by the sulphur process, because they are fair enough in their natural state. All dealers recognize that the sulphur process affects the quality of the walnut, and it is applied only to the Marbot, Cahors, and Cornes walnuts, which are of relatively inferior quality.

Walnuts of last year's crop are selling at this moment at 66 francs per 100 kilograms ($12.74 per 220 pounds).

The production of walnuts in California is much discussed here, but my informant says that it has practically not affected the market in this city. The buyers in New York and elsewhere use the threat of large crops in that State as a means of hammering down prices in France. This is not true, however, of almonds. While the Princess almond of France is said to be not equaled by the Californian nut, the Californian quality is here acknowledged to be sufficiently excellent to replace the French article, and Marseilles trade has been very much injured in consequence.

The demand for shelled walnuts in the United States is for the confectionery trade, and for this purpose walnuts of first-class quality are used and whole half kernels are shipped. The small fragments of kernels resulting from the shelling process are carefully saved in the interior of France and used for the production of oil. Unshelled walnuts are at present selling at 145 francs per 100 kilograms ($27.98 per 220 pounds), best quality, and the small pieces sell for 80 francs per 100 kilograms ($15.44 per 220 pounds).

The levantine walnut trade is considered entirely separate from the French walnut business, the only possible connection being when an unscrupulous dealer selects the fairer portion of the kernels from a levantine shipment and mixes them with Grenoble kernels, thereby securing a better average price. This, of course, is simply a commercial fraud.

ROBERT P. SKINNER,
Consul-General.

MARSEILLES, *June 4, 1901.*

EUROPEAN RAISIN CROP.

Reports from reliable sources estimate this year's Turkish crop at about 410,000 cwts. of Sultanas and 107,000 cwts. of Elemes.

The Denia raisin crop of last year amounted to 600,000 cwts.; this year, a still better crop is expected. Upon the whole, this year's European crop, if present prospects are realized, might be roughly estimated as follows:

	Cwts.
Sultanas	410,000
Elemes	107,000
Denia	650,000
Malaga	250,000
Total	1,417,000

Last year, the failure of the Greek currant crop had a marked effect upon the Malaga raisin market in creating an extraordinary demand at fancy prices for the so-called seedless raisins of Malaga. As a matter of fact, these are not seedless, and it was found that they could not serve the same uses as Greek currants. Late reports indicate that the Greek currant crop this year will amount to 140,000 tons.

BENJ. H. RIDGELY,
Consul.

MALAGA, *June 20, 1901.*

THE IMPENDING DEFICIT IN GERMAN BREADSTUFFS.

The unfavorable condition of the wheat and rye fields in Germany, as reported from this consulate toward the end of April,* has grown more and more ominous with the advancing season, until it is now recognized as inevitable that the cereal harvests of 1901 in Prussia will show the largest and most disastrous deficit that has been recorded in recent years.

As a measure and indication of the impending disaster, there has been addressed to Chancelor Count von Bülow, as Minister President of Prussia, and to his colleagues the Prussian Ministers of Finance, Agriculture, and the Interior, a memorial calling the attention of the Royal Government to the threatened calamity which overhangs the agricultural population, and urging that the Government adopt and set in motion certain prescribed measures of relief. This remarkable document is signed by Count von Schwerin-Löwitz, president of the "Landesökonomie Collegium," a permanent commission which serves as an advisory committee on agricultural subjects to the Prussian Government. The memorial has therefore, both in respect to its origin and the ministry to which it is addressed, the highest official authority, and has produced a profound impression throughout Germany.

It appears from this statement that the present outlook for the Prussian wheat and rye crops is much more gloomy and ominous than was indicated by the earlier reports. Not less than 531,693 hectares (1,313,813 acres), or 46.9 per cent, of the winter-wheat fields have been plowed up and planted to spring crops, while the remaining 53 per cent was reported on May 15 at an average status of 3.8, or nearly 4, which under the German system of crop notation means a very short crop. Never before since 1893 have any considerable portions of Prussian wheat fields stood at so low a figure at the middle of May, and when it is remembered that this now stands for only half the normal winter-wheat area—the remainder being wholly lost—the extent of the disaster will be apparent.

From the most careful estimates that can now be made, the winter-wheat crop of Prussia, which was 2,245,515 metric tons in 1900, will this year not exceed 1,192,000 tons, leaving a deficit of 1,053,515 tons, which, as the memorial points out, would cost, at 175 marks ($41.65) per ton, 183,750,000 marks ($43,732,500) to replace with imported grain.

Besides this, no less than 505,000 hectares, or 11.3 per cent, of the whole area of Prussian rye fields has been winter killed and plowed up. From careful reports of the remaining 88.7 per cent, the rye crop of this year will reach, at most, 5,600,000 tons, a deficit of 713,121 tons as compared with the crop of 1900, an average year. Reckoning the mean price of rye at 145 marks ($34.51) per ton, here will be a further loss of 103,000,000 marks ($24,514,000) to replace. There will be, therefore—according to the memorial of the commission—a deficit in Prussia alone of 1,766,636 tons of bread-producing cereals, valued, at the average prices of last year, at $67,246,500.

---

*See ADVANCE SHEETS No. 1041 (May 20, 1901).

The full force of these statistics is more apparent when the survey is extended to the whole of Germany. The entire wheat crop of the German Empire in 1900 was 3,841,165 metric tons, and of rye 8,550,659 tons, a total of 12,391,824 tons of grain which could be used for bread. Besides this home-grown supply, there was imported, in excess of exports, 978,874 tons of wheat and 817,242 tons of rye, a total net import of 1,816,026 tons, giving an aggregate consumption of 14,207,850 tons of the two principal bread-producing cereals. Statistics are not yet at hand from which to estimate closely what the wheat and rye crops of this year in Saxony, Bavaria, Wurttemberg, Baden, and Alsace-Lorraine will yield. From all accounts, they will be better than those of Prussia, but still quite below the standard of an average year, so that the requirements of the German Empire in respect to foreign-grown breadstuffs will far exceed those of any recent year.

But, as the memorial points out with characteristic agrarian bitterness, this untoward prospect in Germany has had thus far only a slight effect upon the world's wheat market, for the reason that the United States has 28,267,000 acres of growing wheat, which at the estimated yield of 15 bushels per acre will give a surplus that will fill the German deficit and maintain the general wheat market on an even keel.

The memorial then proceeds to estimate the additional losses in straw, clover, and lucerne—which two latter crops have suffered almost as seriously as wheat and rye from the long, severe, snowless winter—and, from the standpoint of the ominous situation thus pictured, petitions the Prussian Government to adopt and carry out the following measures for the relief of the agricultural population:

(1) To grant an immediate and liberal appropriation of money, to be distributed through the agricultural societies to small farmers for the purchase of seed grains, forage, straw, and other necessary supplies which have been cut off by the disastrous winter.

(2) To provide for loans of money, to be offered to farmers at a low rate of interest and long terms of repayment through the central and local savings banks.

(3) A general and liberal reduction of railway freight rates on forage, fertilizers, seed grains, straw and other litter, fuel, and other articles used by agriculturists.

(4) Reduction of railway freight rates on domestic animals.

(5) Permission to gather from State forests and lands wild grass, leaves, etc., that can be used as forage or bedding for animals.

(6) Postponement of agricultural rents and ditching and diking taxes and obligations for the year 1901.

(7) To require all grain and produce dealers to purchase large supplies of oats during the remainder of the current year.

(8) Liberal distribution of rye and bran by produce dealers at net cost prices to needy agriculturalists.

Minister President von Bülow has called a special meeting of the members of the Prussian Bundesrath—not including those from the Hanseatic cities, Hamburg, Bremen, and Lübeck, whose interests he will himself represent—and this assemblage has now under consideration the propositions submitted by the foregoing memorial. Pending its conclusions, a somewhat sensational discussion is in progress among the more liberal newspapers over the conclusions and appeal for lighter duties on imported cereals, with which Count von Schwerin-Löwitz closes his appeal.

The permanent commission, of which he is the chairman, represents naturally, and with great zeal and ability, the interests of the agricultural classes who form collectively the Agrarian party, which is now so dominant and aggressive in German politics. From the standpoint of these economists, the impending disastrous deficit in the wheat and rye crops, and the consequent loss to German farmers, is an additional reason why their scant harvests should be protected from foreign competition and made to yield the highest practicable price to the stricken husbandmen. The fact that a deficit so serious and imminent in German breadstuffs has produced scarcely a ripple on the wheat markets of other countries, and the certainty that this loss will be made good by importations—especially from the United States—are thus early and authoritatively put forward as proofs of the need of higher protection for German agriculture, and will, from present appearances, intensify the contest over that important point when the impending tariff act and its pendants, the commercial treaties, come before the Reichstag next autumn. It need hardly be said that to all except Agrarian economists, the meager home-grown supply and the necessity of large importations should rather serve as an argument in favor of reduced import duties.

FRANK H. MASON,
Consul-General.

BERLIN, *June 4, 1901.*

AMERICAN WHEAT FOR ITALIAN MACARONI.

After efforts covering a period of over two years, I have succeeded in demonstrating the fact that the very finest quality of macaroni can be made of American wheat. This has been declared an impossibility by those engaged in its manufacture here, and there are hundreds of establishments in this district. Up to the present time, Russian wheat and wheat from the Orient have been used, together with Italian wheat, for the production of this article of food, the American wheat being considered too soft. Through the cooperation of one of the largest establishments in this district, it has been found that this conclusion was based upon the proverbial conservatism of the people. When it is remembered that macaroni consists of wheat to the extent of 60 per cent, it will be readily seen that here is an opening for American wheat of no inconsiderable importance. It should be understood that while there is a tax on American wheat, there is also a tax on all foreign wheat—7.50 francs ($1.44) for 100 kilograms (220.46 pounds). It should also be borne in mind that international freights covering transportation of grain from Russia, the Orient, and the United States are practically the same.

I inclose extracts from a letter from one of the largest manufacturers in Italy, and send also a sample of crude American wheat, with a sample of the wheat ground, and a sample of macaroni made from the same.* It has been suggested to me that if the United States Government would admit free of duty, or at least at a lower tax than the present tariff, macaroni made from American wheat, a market for our wheat would be opened in competition with that of Russia and the East. The present tariff on 1,000 pounds of macaroni is $15, or 1½ cents per pound; under the plan proposed, 60 per cent of the said 1,000 pounds would enter free, leaving 40 per cent to be taxed at the present rate of 1½ cents per pound, making on the 1,000 pounds a tax of $6, instead of $15. It should be remembered in this connection that the Italian manufacturer of macaroni, under the scheme proposed, would have to pay freight from the United States to Italy, and also pay freight on the same wheat manufactured into macaroni and transported to the United States.

JOSEPH E. HAYDEN,
CASTELLAMARE DI STABIA, *May 21, 1901.* *Consul.*

---

*Transmitted to the Department of Agriculture with copy of this report.

EXTRACTS FROM LETTER OF DOMENICO ORSINI.

I send you herewith the result of my experiments in producing macaroni from American wheat. Up to this time, I am sure no Italian manufacturer of macaroni thought it was possible, believing it necessary to use a mixture of either Italian and Russian wheat, or of wheat from the Orient and Tunis. I now put in your possession the accomplished fact, which will serve to open up in Italy a wide market for American wheat. America imports macaroni from Italy, mostly from this district. The wheat used, samples of which are here inclosed, is known as "unfalcated wheat," and was purchased by me in New York City. You will notice the rich golden color of the macaroni, and as to its consistency, I would note that it can be cooked in half the time consumed in the preparation of the macaroni now in use.

OIL AND SEED TRADE IN MARSEILLES.

Marseilles is without doubt the greatest manufacturing and consuming point for vegetable oils in the world. Every important oleaginous seed known to commerce is required by the crushing trade, and the equally important soap trade absorbs a large part of the product, and in recent years has purchased from 112,000 to 287,000 barrels of American cotton-seed oil as well. The statistical situation is clearly set forth in the accompanying table, from which it will be seen that the imports in 1900 of all oil seeds, other than copra and palm kernels, were about 10,000 tons in excess of the previous year, while the imports of copra and palm kernels alone showed an increase of 12,000 tons over the previous year. Local mills crushed practically all of the 350,000 tons imported, which, in addition to the 44,990 tons of oil imported, gave in round numbers about 180,000 tons of oil for soap making and edible purposes. Of this total production, the local soap industry consumed about 85,000 tons.

The soap trade requires about 50 per cent of cocoanut oil and 50 per cent of peanut or American cotton-seed oil. Two-thirds of the copra from which the cocoa oil is produced is received here from Manila, and both the sun-dried and kiln-dried qualities are handled, preferably the latter. There is a growing disposition on the part of shippers in the East, other than those in the Philippine Islands, to send kiln-dried copra, and the greater care they take in the collection of the merchandise makes it profitable to them. An increasing quantity of copra is required in this market, and other markets are being developed in the commercial centers of Europe. Buyers are somewhat at a loss to know what turn prices will take during the next twelve months, because of conflicting statements with regard to the Philippine Islands. During the insurrection, shipments from Manila were very much curtailed, and at one time almost ceased. Immediately after the opening of the blockaded ports, the copra collected during the preceding years was forwarded to the European market, and, in the absence of any official crop reports, European buyers are unable to determine to their own satisfaction whether there is still a large quantity of unsold copra in the interior of the country, which will gradually seek a market, or whether the accumulated stock has been entirely disposed of.

The failure of the peanut crops in India and to a lesser extent elsewhere, some years ago, gave the first impetus to the cotton-seed-oil trade in this port, but recently the Indian farmers, who had followed the practice of replanting their land with seed from the previous year's crop, have adopted more scientific methods, and the result is shown in the increased arrivals of their product. They are now cultivating their land carefully and using the best quality of African nuts for seed, and a recurrence of the former trouble is not anticipated. Last year, 18,750 tons of Indian peanuts were received at Marseilles, the total being a very considerable increase over the year before, and it is expected that this year's arrivals from the same source will amount to 45,500 tons. These receipts, together with those from African sources, will naturally affect American cotton-seed-oil sales in Marseilles to just that extent, as the latter is always marketable at a good price, and buyers in the soap trade seek it only when they are unable to secure cheaper vegetable oils of domestic manufacture.

The great demand for low-grade cocoanut oil for soap-manufacturing purposes has had a tendency to keep the Marseilles mills out of the manufacture of other cocoa products. The only firm in this city manufacturing cocoa butter is that of Rocca, Tassy & De Roux. This firm manufactures not only the ordinary soap oils, but a highly refined product known as "vegetaline," which is fusible at a temperature of 26° C., and cocoa butter properly speaking, known here as "cacaoline," fusible at a temperature of 31° C. Vegetaline is an edible copra oil. It sold throughout last year at $15.44 per 220 pounds f. o. b., and the cacaoline, which has the consistency of butter, brought $28.95 per 220 pounds. The producing capacity of this concern is about 50 tons of cocoa butter per month. Cocoanuts in the natural state are imported here to a very insignificant extent, and the only other product of the cocoanut sold in this market is the shredded meat of the nut, used to some extent by manufacturing confectioners.

Vegetable lard finds a ready sale here. The most important buyer is the L. Félix Fournier Company. This corporation corresponds fairly well with the American idea of a trust, controlling works in Marseilles and Paris. The requirements in Marseilles amount to 80 tons daily of tallow and palm-kernel oil. The Paris branch is less important. The concern is probably the largest candle-manufacturing company in the world, and buys quantities of both animal and vegetable tallow. Accurate statistics with regard to vegetable tallow are almost impossible to obtain, as the article is grouped with other merchandise. The vegetable tallow of foreign manufacture is received mainly from China, and the annual imports are estimated at 500 tons. There is also manufactured in this city about 600 tons annually from Ilippi nuts. These are received and crushed almost exclusively by H. Beau & Cie., 26 rue Montgrand. The product contains 55 per cent of fatty acid, and competes on even terms with tallow containing 43 per cent of fatty acid.

Cocoanut oil is growing stronger from month to month, prices having risen from $9.65 per 220 pounds in January to $9.80 in May, with every prospect of retaining the present level, and probably of going a little higher.

Importations of oleaginous seeds for 1900.

Seed.	Quantity.	Seed.	Quantity.
	*Tons.**		*Tons.**
Peanut	106,231	Turnip	1,508
Wild rape	579	Copra	104,207
Cotton (Egypt, 20,867 tons)	20,882	Palm	8,294
Linseed	10,242	Other	21,048
Hemp	2,730		
Sesame	67,470	Total for 1900	350,179
Poppy	2,973	Total for 1899	325,974
Colza	4,015	Total for 1898	309,197

*Of 1,000 kilograms, or 2,204 pounds.

Exportations of vegetable oils for 1900.

Oil.	Quantity.	Oil.	Quantity.
	*Tons.**		*Tons.**
Palm	92	Colza	280
Cocoa	9,096	Poppy-seed	52
Castor-seed	4,530	Turnip-seed	2
Linseed	586	Other	138
Wild rape-seed (ravison)	37		
Niger	13	Total for 1900	32,083
Cotton	4,877	Total for 1899	36,607
Sesame	10,469	Total for 1898	34,995
Arachide (peanut)	1,911		

*Of 1,000 kilograms, or 2,204 pounds.

The exportations of oil-seed cake of all descriptions for 1900 were 50,377 tons.

Importations of vegetable oils for 1900.

Oil.	Quantity.	Oil.	Quantity.
	*Tons.**		*Tons.**
Palm	20,286	Colza	5
Cocoa	10	Other	4
Castor-seed	9	Total for 1900	65,321
Linseed	2	Total for 1899	78,430
Cotton-seed (United States, 42,100)	44,990	Total for 1898	72,687
Sesame	15		

*Of 1,000 kilograms, or 2,204 pounds.

Arrivals of oil seeds at Marseilles from January 1 to May 31, 1901.

Description.	1901.	1900.
Peanuts:	*Tons.*	*Tons.*
Shelled	22,578	16,726
Unshelled	51,818	52,717
Linseed	3,893	5,119
Rape seed and ravison	1,398	1,504
Poppy seed	451	466
Castor seed	11,754	6,700
Cotton seed	11,249	4,494
Sesame seed	32,331	54,139
Copra	38,485	43,260
Palm kernels	2,830	3,831
Mowrah seed and Ilippi nuts	1,362	908
Total imports	178,158	189,864

ROBERT P. SKINNER,
Consul-General.

MARSEILLES, *June 3, 1901.*

TRADE NOTES FROM NICE.

The following extracts are taken from the annual report of Consul Van Buren, of Nice (received too late for use in Commercial Relations, 1900):

There have been indications during the past year of an increasing tendency to take up goods of American manufacture here. While progress in this direction is slow (due in part to the fact that trade is not done direct with this port), I am convinced that our products are destined to find a remunerative market in this district.

The building enterprise continues, though the activity is not as manifest. Modern improvements are being more generally put in. Parquet floors are coming into use very rapidly, and our manufacturers should investigate not only this branch of the industry, but many others.

The declared value of articles manufactured in this consular district and exported to the United States has been:

Article.	1900.	1899.
Confectionery	$5,921.50	$3,912.92
Fruits, preserved in sugar	135.20	147.26
Meal, almond	733.39	519.35
Oil:		
Almond	14,209.70	10,048.67
Juniper	....	239.61
Nut	....	306.42
Olive	70,437.57	81,741.68
Sesame	43.30	585.71
Perfumery	568,577.09	542,599.22
Pottery, artistic	346.04	405.25
Total	660,403.79	640,506.09

I may add that the total for 1898 was $505,527.56. The increase is therefore well maintained.

INDUSTRIAL CONDITIONS IN ROUMANIA AND SERVIA.

The European press has been calling attention to the recent industrial activity of the Balkan Peninsula, and particularly to the efforts which the Kingdoms of Roumania and Servia are making to induce capitalists to establish manufactories of various kinds in these countries. The Governments of these countries are holding out substantial inducements to parties who will start industrial enterprises.

An English firm, under agreement to start a cotton spinning and weaving factory, has been granted the following concessions by the Roumanian Government: Exemption from all direct State, provincial, and local taxation; the right to import free of duty all materials to be used in the erection of the factory, as well as all the raw stuff for the manufacture of cotton goods.

In Servia, a German syndicate has been granted a concession to erect a celluloid factory in the city of Raschka, on the Turkish frontier, and operate it for twenty years. The syndicate is under obligation to invest at least 3,000,000 francs ($579,000) in the enterprise, but is then exempt from all taxation and has the right to import raw stuffs for the factory free of duty. This syndicate is likewise granted the right to erect steam sawmills and to cut timber on the Crown lands, with the restriction, however, that only trees measuring at least 30 centimeters (11.8 inches) in diameter must be cut down, and that none of the lumber sawed must be sold in Servian territory.

The Government is very anxious to see one or more paper mills started in the country. Timber from which wood pulp can be produced is said to be plentiful in Servia, and all other raw stuffs necessary for the manufacture of paper can be imported free of duty.

Manufactures of other descriptions are also said to be needed, and, on the whole, it might be worth while for enterprising Americans to look up the industrial and commercial situation on the Balkan Peninsula.

S. LISTOE,
Consul.

ROTTERDAM, *May 17, 1901.*

HUNGARIAN LAW RESPECTING COMMERCIAL TRAVELERS.

Under date of June 17, 1901, Consul Chester, of Budapest, sends translation of the new Hungarian law respecting commercial travelers and foreign firms having houses in Hungary, the principal provisions of which are noted below:

The provision whereby every tradesman is entitled to collect, or to have collected, orders for his own or other products, not only at the place of his residence, but also at any other place and at any time, and to exhibit samples, is repealed, and the following provision is substituted: Native manufacturers, merchants, or their representatives, outside of their place of residence, may call, with or without samples, only upon such manufacturers or merchants, in the collection of commercial orders, as shall be engaged in the sale or employment of the particular goods of their business. The reception or fulfillment by a representative of single orders addressed directly to a manufacturer or merchant does not fall under this prohibition. The owner of any movable storehouse is obliged not only to take out a trade certificate, but also to conform to the conditions laid down in Law XVII of 1884 (permit, payment of fees, and payment of one-tenth part of income).

The collection of commercial orders elsewhere than at the residence of the merchant or manufacturer being permitted only to such manufacturers or merchants as are engaged in the sale or appliance of the particular goods in the course of the business, such goods are understood to be not only those that are strictly objects of trade, but those considered as tools of trade, and office, shop, or store furnishings (commercial books, stands, cash boxes, typewriters, scales, etc.). Landowners carrying on any sort of industrial or manufacturing undertaking (mill, spirit factory, starch factory, dairy, etc.) may be called upon in collecting commercial orders for goods salable or of use in the sphere of their particular industrial or manufacturing undertaking. This law does not apply to the collection of orders for literary and artistic productions, which are subject to police supervision of the local authorities. By special authority, the following exceptions are made to this law:

(1) Articles of domestic industry. The collector shall prove the domestic industrial character of the goods by a certificate of the local authorities.

(2) Implements of art and scientific materials.

(3) Sewing machines.

(4) The larger agricultural machines, such as thrashing machines, sowers and reapers, locomotives, locomobiles, steam plows, steam pumps, and milling supplies.

(5) Electric-power-transmitting and general lighting and telephone supplies.

Transgressions of this law are punishable with imprisonment of not more than a month and a fine of not less than $4 or more than $122. In case of conviction, samples shall be confiscated, and, if of value, be sold at auction. In case of repetition of the offense, the party may be prohibited for one year from collecting orders.

The law takes effect July 1, 1901.

AMERICAN COAL AT MALTA.

Statistics as to coal imports at this port for the month of April just ended tend to show that if the present condition of the coal trade in England continues, Malta will use more American coal than ever before. Several large dealers here have received word from their head offices at London to add 1s. to contract prices and leave complaints to be fought out by owners there. It must be understood that the above applies to bunker coal. Very little else is used here. For the past few weeks, the contract price for this port has averaged $6.31 and $6.55 per ton. The increase of importations of American coal will depend largely upon freight rates. Some months ago, cargoes for the British Admiralty were brought here from the United States at a cost of $4.86 per ton freight. One boat brought for the Peninsular and Oriental Steamship Company 3,445 tons of New River coal, which paid a freight of $4.13 per ton; another vessel brought 4,970 tons of similar coal at a freight of $3.18 per ton. The Peninsular and Oriental Company, on an average, maintains a store of coal at this port of about 20,000 tons. The statistics which follow show a very favorable result for American coal, when it is considered that Malta is a new territory and that up to the last year only English coal was imported.

Imports into Malta, April, 1901.

From—	Tons.
Cardiff	15,151
Newport News	8,415
Liverpool	3,040
North country	1,939
Other ports	1,387
Total for April, 1901	32,132
Total for April, 1900	48,426

The local manager of the Peninsular and Oriental Company informs me that reports from two of the vessels of his line that have been using the American coal are to the effect that it is excellent steaming coal.

JOHN H. GROUT,
Consul.

MALTA, *May 11, 1901.*

DEMAND FOR SULPHATE OF COPPER IN GREECE.

In consequence of the great increase of phylloxera in the currant-growing districts of Greece, sulphate of copper has become an important article of importation in that country. The present yearly consumption is estimated at from 7,000 to 8,000 tons, and the home production is scarcely worth mentioning.

The wholesale currant trade of Greece is almost entirely controlled by banks and commercial syndicates. These associations, realizing the necessity of counteracting the ravages of the fast-spreading phylloxera, have not only made systematic efforts to impress upon the planters the importance of spraying their vines, but have also taken steps to import sulphate of copper in large quantities and to have it sold to the planters practically at cost. Thus, the "Currant Bank of Greece" alone imported over 2,000 tons of this commodity last year.

Nearly all the importations have so far come from Great Britain, which, in 1900, furnished a satisfactory article at an average price of £23 10s. ($114.36) per ton. The British product contains from 98 to 99 per cent of pure sulphate of copper, the residue consisting of copperas and a few other impurities. During the past spring, the sulphate was sold to the consumer at a margin of only £1 15s. ($8.51) per ton. In this connection, it should be borne in mind that in order to encourage the spraying of vines, the Greek Government, some years ago, placed this commodity on its free list.

It is my opinion that the United States could easily secure a goodly portion of this trade. Only a few years ago, Great Britain furnished nearly all the sulphate of copper consumed in Austria, the superiority of the product enabling her to overcome practically all competition. However, as the quality of the American article improved, it secured gradually a larger share of the trade, and later scored quite remarkable gains. Thus, while Great Britain, in 1898, supplied 61 per cent of the blue vitrol imported at Trieste, against 24 per cent imported from the United States, her share of the total imports of 1899 fell to 48 per cent and ours rose to 43 per cent. The success which has recently attended the efforts of our exporters of sulphate of copper to gain a market for their ware in Austria-Hungary should be a strong incentive to contest the field with their British rivals in Greece also.

FREDK. W. HOSSFELD,
Consul.

TRIESTE, *May 31, 1901.*

DEMAND FOR WELL-BORING MACHINERY IN TURKEY.

On account of the almost complete deforestation of the mountains about Harput—the total absence, in fact, of anything corresponding to the American or German meaning of the word "forest"—successful agriculture in this region depends, to a large extent, upon irrigation. The point has been reached where there is no longer an adequate supply of water from mountain springs for the needs of Harput, Mezreh, 'and adjacent territory. Were sufficient capital available, much of the arable land could be readily irrigated by a proper diversion of water from the Murad Su, or eastern branch of the Euphrates.

In view of present conditions, the governor-general and other officials feel that the time has come to test the efficiency of artesian wells, and one of the members of the provincial council, the leading capitalist of the region, is ready to supply the money necessary to settle the question. Correspondence is solicited from American manufacturers of well-drilling machinery, as well as from those supplying windmills, pumps, and accessories.

Naturally, for this region, simply constructed machinery is desirable, in order that repairs may be easily made. It is true, there are a few mechanics here, trained in New England machine shops, but mechanical facilities are sadly inadequate. A style of drill capable of being transported on its own wheels from the seaboard to this point would be eminently advantageous. It would be well for corresponding firms to indicate the number of cubic feet their different styles of machines occupy when packed for sea transportation, and the total weight. There should also be full information with regard to tubing and all other accessories.

The capitalist above mentioned would prefer to make some arrangement, if possible, by which he need pay only the expense of boxing, transportation both ways, rent while out of the country, and wear, tear, and depreciation, in case of nonsuccess in striking water. He is ready to deposit in advance, with the Banque Ottomane, or at this consulate, the full price of a drill, paying all the accompanying expenses, with privilege of returning the machine, subject to above costs, in case of failure. In default of some such arrangement, he will have to accept the best terms available.

There would undoubtedly be a steady demand for drills should success follow this experiment, not only in the Harput plain, but also in many arid and semiarid regions adjacent to the numerous mountain ranges of this country.

In connection with the proposed experiment, I have examined the topographical and geological conditions with some care. The Harput plain borders on the Taurus Mountains, which rise along its southeast border to the height of 2,500 to 4,000 feet above the level of the plain. Mezreh is at an altitude of 3,600 feet above the level of the sea. The plain is a deep, lacustrine deposit. The Taurus, as well as lower ranges on the northwest, consists of limestone, with frequent basalt dikes and caps of granite. Slate is not infrequent, as well as an occasional lava field. I have been unable to encounter parallel strata of clay, so desirable in well boring, but the location of limestone strata and the force with which water issues from openings therein are favorable indications.

Reforesting and the effective utilization of the abundant supply of water in the Upper Euphrates would restore to this region its agricultural wealth of two thousand years ago. Existing conditions seem to render this impossible, but artesian wells, if feasible, will bring needed relief at a moderate outlay.

Correspondence may be directed to this consulate.

THOMAS H. NORTON,
HARPUT, *May 13, 1901.* *Consul.*

PERSIAN EXPORT OF GRAIN PROHIBITED.

Vice-Consul-General Tyler sends from Teheran, May 1, 1901, copy of a communication from the Minister for Foreign Affairs concerning the partial failure of the grain crops in the south of Persia, through an insufficiency of the rainfall and the irrigation supplies; and confirming an order, issued about six months ago, prohibiting the export of grain.

For three or four years past, adds Mr. Tyler, the cereal produce in some parts of Persia has been considerably below the average, barely providing for the wants of the population. The past winter was the mildest known for many years, and the rainfall below the actual requirements of the agricultural industry; and there are reports that a blight of insects has, in some districts, caused much damage and loss. There have been some very seasonable storms, however, which it may be hoped will bring this year's harvest up to a fair average.

The note from the Persian Minister for Foreign Affairs reads:

> With reference to my communication of the 6th of Rajah, 1318 (30th of October, 1900), informing you that the exportation of grain from Persia had been prohibited, and requesting that you would, as the situation was serious, instruct the

citizens of the United States to respect that order, so as to preserve a sufficiency and prevent a rise in the price of grain: From reports that have been furnished to this Government, it appears that in the south of Persia there has been a scarcity in the rainfall during the past season and failure of the springs, and consequently a considerable diminution of crops. It has, therefore, been deemed necessary, in view of the fact that foreigners were exporting grain, to remind your excellency that the aforementioned order is still in force, and to request that you will give strict injunctions to your citizens to abstain from exporting grain from this country.

CUSTOMS ADMINISTRATION IN PERSIA.

Vice-Consul-General Tyler sends from Teheran, June 6, 1901, translation of a royal ordinance inaugurating a new system of customs administration for Persia. It appears, says Mr. Tyler, to be an improvement on the system which it abolishes and supersedes. The ordinance reads:

Section I. The collection of octroi dues, caravanserai duties, market taxes, weighing charges, and other imposts, of whatever denomination, has been entirely abolished;* and no officer of the customs or any other administration shall, under any name or pretext, have the right to claim these charges.

Sec. II. All revenues arising from import and export duties, in conformity with the regulations established in A. H. 1246, levied generally on the actual value of the goods, at the rate of 5 per cent, have been confirmed. States having special treaties with Persia, in conformity with which a higher duty than 5 per cent is levied on imports and exports, are, it is to be understood, not included in this ordinance. The prohibitions contained in the law of the 5th of Ramazau, A. H. 1317 (the 7th of January, 1900), against certain imports and exports are still in force.

Sec. III. In place of the internal dues which were formerly collected from the muleteers and others at various places, we have ordained that at the frontier stations and at seaports, a uniform charge of 1 kran 2 shahis (11 cents) shall be established on each mule load of goods weighing 260 pounds. Furthermore, if the mule load shall be above or below this weight, the charge will be increased or diminished in proportion. This sum, to be taken from the carriers of merchandise, is a permanent charge, from which no individual person will be exempt, either in whole or in part, but has nothing whatever to do with the merchant, and is collected solely for the purpose of keeping the roads in repair and maintaining the guards. In order to give full effect to this decree and to prevent any infringement of the same, we have given orders that all goods, whether imports or exports or local in transit, without any distinction or exception, shall pay this tax to the customs officers at the customs stations on the frontiers and at the posts, in the same way as customs duty. The receipt of the same will be entered on the transit passes given with the goods, so that there may be no further demand at the cities and towns en route. The animals used for the transport of goods and their tackle are to be considered and, if necessary, held as a guaranty for the payment of this duty by their owners. If the owner of any animals shall object to paying this duty, his mules or camels will be impounded until payment be made. The officers of custom-houses are strictly enjoined that in any action for the enforcement of the tax it may be necessary to take, they are under no circumstances to detain merchandise, but simply to impound the pack animals pending the recovery of the tax.

---

* Noted in Advance Sheets No. 1065 (June 18, 1901).

We furthermore make a decree that throughout the whole of the Kingdom of Persia no person, under any pretext whatever, shall demand a road toll or any other tax for transit, except in the case of proprietary roads, for permission to use them.

SEC. IV. This mandatory firman will be promulgated on the 18th of Zeehejjeh, A. H. 1318 (8th of April, A. D. 1901), in the symbolic year of the ox.

HINTS ON EAST INDIAN TRADE.

I learn from reliable sources that among American and European firms catering for the East Indian trade, there has been noticeable of late a tendency to do business direct with the native importers. While this setting aside of the established commission houses at the seaports promises on the one hand an advantage, in so far as a large business may be expected by direct dealing with the natives, it has on the other hand very serious drawbacks, owing to the fact that in the East Indies no law exists for the registration of firms, and it is often impossible to ascertain by what persons a concern is owned. Information regarding the standing of a native concern is of little value, as, if fraud be intended, the owner of the concern can say that he is only the agent for some other person.

American export houses should be careful in opening up business relations with native firms, especially up country; and should rather confine themselves to the profitable markets at the seaport towns. The bazaar at Bombay, it is reported, is open for a good many articles, but careful study of the goods wanted is required; first-class products are not so much in demand as cheap and showy ones. If our people want to capture these markets, they should send shrewd and reliable persons to study the local wants, and then pack the goods as desired by the natives. German export houses do this very successfully.

OLIVER J. D. HUGHES,
Consul.

COBURG, *June 21, 1901.*

PROPOSED MUSEUM OF AMERICAN GOODS AT CALCUTTA.

The value of all manufactured goods imported into India during the year ended March 31, 1901, was about $250,000,000. Of this, nearly 67 per cent came from the United Kingdom, while less than 2 per cent came from the United States. With well-directed efforts on the part of our manufacturers and exporters, they would soon secure a much larger proportion of this trade.

If a museum of American goods, similar to the Japanese museum in Bangkok,* were established in Calcutta by a combination of

---

*See ADVANCE SHEETS No. 866; CONSULAR REPORTS No. 243 (December, 1900).

United States manufacturers, where samples could be inspected and the goods delivered be compared with them, it would greatly increase our trade. It should be under the management of an experienced business man, with assistants acquainted with native merchants.

The United States is a large buyer of Indian products, taking about 60 per cent of the jute manufactures, in the form of gunny bags and cloth, and nearly 15 per cent of the raw jute exported, besides immense quantities of hides and skins; large shipments of indigo, tea, oils, and mica, as well as carpets, rugs, draperies, embroideries, curios, etc., amounting to about $24,000,000 annually. There is no reason why we should not have a much larger proportion of the import trade.

If such a museum as I suggest were established here, embracing samples of iron and steel manufactures (in which we are successfully competing with all other countries), machinery, mill work, railway material, bridge work, agricultural implements, electrical supplies, wire fencing and other wire goods, hardware and cutlery, cotton piece goods and other cotton fabrics (of which there is such an enormous sale here), boots and shoes, enameled ware (to take the place of costly brass goods now in use), umbrellas (for which there is a great demand, as nearly every native, though half naked, will have a cheap umbrella), watches, clocks, toys of all kinds, and the hundreds of articles which will naturally suggest themselves to our manufacturers, it would soon increase our sales enormously. If a number of manufacturers should combine to establish such a museum, it would be comparatively inexpensive for each. Should manufacturers not combine, it would be a splendid enterprise for some energetic business man to make arrangements with as many manufacturers as possible to supply him with samples of their goods and to execute his orders. With a moderate capital, he would soon build up a large and prosperous business.

R. F. PATTERSON,
Consul-General.

CALCUTTA, *June 5, 1901.*

WHEAT CROP OF INDIA.

Under date of June 5, 1901, Consul-General Patterson, of Calcutta, writes:

Wheat in India is most largely grown in the Punjab and the Northwestern Provinces, the area sown there in the present season being two-thirds of the whole. Until the end of January, the prospects of the wheat crop were of the brightest; but the winter rains and the continued cold and cloudy weather through February and March seriously damaged the crop, which was further injured by rust, insects, and hail in March. Still, even under these adverse conditions, the yield is considerably in excess of the decennial average, being as much as 45 per cent greater in the Punjab and 28 per cent greater in the Northwestern Provinces, and, together with Bengal, representing a supply of about 5,435,000 tons; the decennial average having been 4,066,000 tons. In the other provinces, conditions have been far less favorable; the monsoon rain was scanty, and at sowing time the land was so dry that in many places the crop was a complete failure. The yield for India generally is estimated at about 6,580,000 tons, which is about 8½ per cent more than the decennial average.

The following figures give the exportation of wheat from India:

	Tons.
1895–96	500, 246
1896–97	95, 528
1897–98	119, 630
1898–99	976, 025
1899–1900	485, 204
1900–1901	2, 501

As the yield is considerably above the last decennial average, the export this year will probably be greatly increased and may reach from 10,000,000 to 15,000,000 bushels.

Consul Fee, of Bombay, June 7, 1901, says that the final estimate of the crop for the current year is 6,690,000 tons, or 1,750,000 tons more than in the previous year. The ton used is the English long ton of 2,240 pounds. The estimated area of the acreage under wheat for the year is 22,500,000 acres, being about 5,000,000 acres more than the previous year, and about 2,000,000 acres less than the general average for the preceding ten years. There are two wheat-growing seasons in India. The "kharif," or autumn crop, is sowed in June, or just before the rains of the monsoon. The "rabi," or spring crop, is planted in October or November, gets its start from the moisture held in the soil from the monsoon, and is nourished either by irrigation or by winter rains. The crop is generally harvested in February; it is much the larger of the two crops, both in acreage and yield, and the grain is superior.

NEW KOREAN RAILWAY.

I inclose extract from the Japan Daily Mail of May 29 containing a very timely statement as to the proposed Seoul-Fusan Railway, which is now being surveyed.

The road is to be built by a Japanese syndicate upon a guaranty by the Japanese Government of the interest on the bonds for fifteen turned it out at the other end a box or case ready for filling. All the processes, however, were interesting, the delicacy and precision of the machines and workmen and the skill shown by the lithographic artists affording evidence of the perfection to which this industry has been brought.

As we have said, these works are conducted on American lines, and the workmen are evidently under much more strict discipline than is usual in Japanese offices—some of them having had several years' training in a similar establishment in Rochester, N. Y.—and it would be interesting to learn how the methods work in this country. But the establishment of such an undertaking is possibly an indication of the tendency to set up foreign manufacturing enterprises in this country, a tendency that would be much more rapid, to the great advantage of Japan, were it not that the land laws are at present illiberal in denying landholding rights to foreigners.

COAL IN EAST SIBERIA.

The supply of coal for eastern Siberia comes chiefly from the island of Sakhalin, where the mines are worked by convict labor; also from Japan and from the mines in the vicinity of Vladivostock. There are mines in this district, but they lack intelligent working and modern appliances. Cardiff seems to be the coal most in demand for steamer purposes, and considerable quantities are imported, despite the distance. Two British ships recently brought in 6,000 tons each, at £2 ($9.73) per ton, for the Imperial Government. Coal capable of competing with Cardiff is the only kind that could be profitably introduced here. Owing to the nearness of Japan and Sakhalin, there is little demand for other foreign coal, but there is every evidence that this will increase in the future. The mines on the island of Sakhalin are not very extensive, and the coal is mostly bituminous. It is, however, an excellent coal for steamers. Quite recently, the Chinese Eastern Railway decided to use Japanese coal for its steamers plying between Port Arthur and Vladivostock. There are abundant indications of lignite coal all over Siberia, as well as in Manchuria. With the increased demand for foreign coal would come a good market for American coke.

Vladivostock is destined to be the great commercial port of all eastern Siberia, the outlet of the whole region comprising the Trans-Baikal, the Amur, and the littoral provinces. Eventually, the seat of government will probably be removed from Habarofsk to this port. Then will come, not only additional manufactories, but also shipbuilding works, iron foundries, etc., together with an increased demand for labor, material, fuel, and supplies of every kind.

On the property belonging to the Ussurian Mining Company, situated about 20 miles from this city, at a depth of 75 feet, has been found a layer of gray coal from 8 to 10 feet in thickness, of an excellent quality. The supply is estimated at from 30,000,000 to 40,000,000 tons. It is said to be remarkably clean; it does not contain any foreign substances, burns with great heat, and the waste is only from 3½ to 4 per cent. The nearness of this coal bed to the railway line is an important item. Coal of a similar character has been discovered at the mines at Amtambire and on the Manghoogay.

The lack of cheap fuel has been one of the great drawbacks to the development of this region, the wholesale destruction of timber for railway uses having raised the price of wood. Siberians hope that these newly discovered mines will yield sufficient to drive out the dear Japanese coal. It is said facetiously that every mercantile firm of good standing in Vladivostock must own a gold or a coal mine. The difficulty is not in prospecting or in purchasing mines; it lies rather in the methods of working them. It is not hazarding much to say these disadvantages will not be soon overcome, as Siberians generally are quite indifferent to new ideas and are not disposed to run any risks. Foreign capital has been invited to develop mines of all kinds, but there are too many impediments and restrictions, and a vague fear seems to prevail that in some mysterious manner the fields may be spirited away and lost to the original owners. Meanwhile, coal, iron, copper, and gold in abundance await enterprise and capital.

Messrs. Crompton & Schwabe, an English firm, have recently purchased a half interest in a coal mine in this vicinity. They propose to introduce modern methods, and the outcome is watched with interest. The coal on what is known as the Gorloff property is largely used for mineral oil and for chemical purposes. Mr. Clarkson, an American merchant, whose views I subjoin, is exploiting three coal mines in this district, under the superintendence of Mr. James Miller, of San Francisco. The prospects are most favorable.

As the answers to my inquiries, herewith submitted, show, the foreign coal chiefly used is Japanese. There is plenty of it. It is easily mined and cheaply and expeditiously loaded. There is a duty of 30 kopecks per ton on this coal in certain parts of Russia. The domestic supply is largely bituminous. In my opinion, American coal could compete if it were smokeless, of superior heating power, and could be delivered here at $9 per ton or less. The average import is from 15,000 to 20,000 tons per year. No. 1 Japanese coal brings 12 rubles ($6.18) per ton; Sakhalin No. 1, approximating Cardiff and superior to Japanese, 14 rubles ($7.21), top price. The demand depends largely on the cost and the varying need. Most merchant steamers now stop at Mororan and Moji for coal.

There has been a gradual revolution going on in heating methods since the installation of American steam heaters in the Russian-Chinese Bank. Owners of other buildings are seeing the economy of this system and are changing their plants. Many of the old cylinder stoves are being altered to use coal instead of wood, coal at 10 rubles per ton being more economical than wood at from 7 to 10 rubles ($3.60 to $5.15) per sagen (7 feet).

Admiral Terentieff, the present head of the volunteer fleet at this port, has kindly given me his views upon the subject of coal in Siberia:

> The annual demand for foreign coal is about 35,000 tons for steamers, 15,000 tons for railway purposes, 18,000 tons for the navy, 7,000 tons for the navy-yard and 6,000 tons for docks. In the navy, as in the merchant service, the demand is chiefly for smokeless coal. All kinds of coal are used, but only 8 per cent ashes are allowed. The supply of Siberian coal would suffice at present for all ordinary purposes, but not for steamers. The total output of all of our coal mines I should consider to be about 60,000 tons. Of this amount, perhaps 30,000 tons come from Sakhalin. The price of coal at local mines is about 7 rubles ($3.60), on the average. Most of our native coal comes from Sakhalin—30,000 tons; from the vicinity of Vladivostock, 30,000 tons; and from Habarofsk, 6,000 tons; but by far the largest quantity is imported from Japan. Scarcely any coal comes from the United States. I believe some has been tried, but with what result I do not know. We exported a little over 2,000 tons to Hankau last year. There is no duty on foreign coal at this port.

Mr. Adams, the notary public of Vladivostock, is interested in coal, owning a good mine some 90 miles distant, from which he obtains a superior quality of coal. He says:

> It is only a question of cheapness whether it will pay to send American coal here. I think 100,000 tons could be sold in this city, if it could only be landed cheaply enough. Bituminous coal is needed. Estimates of consumption vary. The best coal is from Sakhalin, where the Imperial Government has two good mines. M. Makofsky owns one (lignite), but it is nearly exhausted.

D. M. Clarkson, the American merchant, says:

> The demand for foreign coal is limited, except for Cardiff, used in the navy. The bulk of the Cardiff stock goes to Port Arthur. The Chinese Eastern Railway's seagoing vessels use some 5,000 or 6,000 tons for bunkering purposes.
>
> Practically speaking, there are few coal mines in Siberia, if we except the Government ones. I do not know of any American coal used at this port. It is by long odds superior to Japanese, but whether it could be imported at a profit or not depends on delivery price here. American coal could only compete in price with Cardiff; the other coal is too cheap.

RICHARD T. GREENER,
Commercial Agent.

VLADIVOSTOCK, *February 25, 1901.*

IMPROVEMENTS ON THE SUEZ CANAL.

The report of the Suez Canal Company, just out, deserves special attention, as it becomes apparent that improvements, in conformity with modern requirements of navigation, will be inaugurated in the near future.

Since the opening of the Suez Canal, little has been done in following the development of navigation. It caused, therefore, no surprise that the year 1900 showed no increase in revenues and that the traffic, which at first showed a rapidly rising tendency, in late years has been almost at a standstill.

Transoceanic navigation has for some time realized that the use of small steamers for long distances leaves but a small margin of profit, even on high rates of freight transportation. Vessels of large tonnage, however, were unknown at the time of the opening of the Suez Canal and the depth of the canal is insufficient for them, which is undoubtedly the reason that the year 1900 shows no increase in traffic. This is to be remedied by modern reforms. The deepening of the channel to a depth of from 30 to 31 feet has been begun. It is contemplated to light the canal by electricity, so as to let the traffic proceed at night. To meet these expenses and those of a few minor improvements, a new loan of 25,000,000 francs ($4,925,000) will be negotiated.

RICHARD GUENTHER,
Consul-General.

FRANKFORT, *June 6, 1901.*

PROPOSED RAILWAY FROM ALEXANDRIA TO SHANGHAI.

The press states that an English engineer has worked out a plan to connect Alexandria in Egypt directly with Shanghai. The railroad, which will be about 6,400 miles long, will have three divisions. The middle one, of 2,125 miles, is already in existence; it is in the railroad net of India. From Alexandria, the road will run east southeast over the Isthmus of Sinai to Akaba, the north end of the Bay of Akaba; from there, almost due east to Kurveit and Bassorah, thence through southern Persia to the frontier of Baluchistan and across this state, which is under the English protectorate, to connect with the India railroad net. From Shanghai to Chungking, the road will run along the Yangtze Kiang, touching all important trade centers, such as Nankin, Hankau, etc. Then it will run by way of Shantung, Yunnan, and Talifu to Kunlog, the most eastern terminus of the India roads. A road will connect Mandalay and Calcutta. Karachi, at the mouth of the Indus, will become one of the principal stations.

It is stated that work on the road will soon be commenced.

RICHARD GUENTHER,
Consul-General.

FRANKFORT, *May 28, 1901.*

THE STARCH TRADE IN EGYPT.

From a recent report of the Austro-Hungarian Chamber of Commerce at Alexandria, I gather the following information concerning the starch trade of Egypt:

Starch manufactured from either wheat or corn is used extensively in the preparation of oriental sweets, the best known among these being the so-called "rohat lukum," the "taffy" of Arabian confectionery, which finds a ready sale in the Eastern market. The rice starch, used only for laundry purposes, is much less in demand.

The home production is confined to a single factory at Cairo, which manufactures only wheat starch. Importations are made chiefly from Germany, England, France, Belgium, and Turkey.

Confectioners buy only lump starch of a bluish tinge. This variety is imported chiefly from England, in cases containing 50 pounds net, and is delivered f. o. b. Alexandria at about 12½s. ($3.04) per case. It has a large sale in the interior of Egypt, but is not entirely satisfactory to the local trade of Alexandria.

The article furnished by France and Belgium is practically of the same quality, and is not easily distinguished from the English product by the Egyptian buyer. The current price is about 34 francs ($6.56) per 100 kilograms (220.46 pounds) f. o. b. Alexandria. It comes packed in boxes of 25, 50, and 75 kilograms (55, 110, and 165 pounds). Tare is deducted, and, contrary to Eastern custom, no charges are made for packing. This starch is put up in packages containing only 2 kilograms (4.4 pounds) each, and sold at an advance of 2 francs (38.6 cents) per 100 kilograms.

Syria also supplies large quantities of corn and wheat starch; but as the pieces are rather small in size and of a yellowish color, this article finds a market only on account of its low price.

Rice starch is imported from England, Germany, France, and Belgium. As has already been stated, it is used in Egypt only for laundry purposes. The products of the last three countries do not, upon the whole, seem to differ in quality. The starch is usually imported in cases containing 12 packages, each package weighing about 25 kilograms. There are two grades, the first being at present sold at from 48 to 50 francs ($9.26 to $9.65) and the second at from 40 to 42 francs ($7.72 to $8.11) per 100 kilograms (220.46 pounds) f. o. b. Alexandria. The German article, especially a Hamburg brand, is reported to have found a very ready sale in recent years.

English laundry starch also finds a good market in Egypt, and is shipped in boxes of from 50 to 55 pounds. During the past spring, it was sold at from 20s. to 25s. ($4.86 to $6.07) per cwt. (112 pounds) f. o. b. Liverpool.

The usual terms of payment for imported starch are cash within thirty days, with a discount of from 2 to 3 per cent.

FREDK. W. HOSSFELD,
Consul.

TRIESTE, *June 20, 1901.*

UNITED STATES CORN IN SOUTH AFRICA.

I am in receipt of the following interesting communication from a well-known resident of Cape Town:

> Has your attention been drawn to the fact that very large quantities of Argentine mealies (maize, or corn) are imported here to the exclusion of that bulk of American grain? An importer tells me that all the American mealies sent out here consist of what is locally known as "horse tooth," a kind for which there is little demand. The Argentine mealies referred to are what is known in the United States as "dent corn" or "flint;" of this latter I do not feel sure, as the kernels seem soft for typical "flint." But surely the United States could furnish just what is wanted, were the requirements known.
>
> I am told that the Argentine mealies have some advantage in the price. They, however, are more or less weevily; often very much so, and on this account require rebagging and winnowing. The grain from America is generally kiln dried and clean. Again, the trade here calls for grain in bags weighing 200 pounds gross, and the Argentine people are said to pay little attention in regard to the weight put in a bag, sending more or less than 200 pounds, just as it happens.

The letter speaks for itself, and I may add that the corn raised in this country resembles the Argentine corn in shape, but is slightly smaller. It is quite palatable when mixed with cold water, and is principally used thus by the natives. Our own western corn prepared in a similar manner is harsh and uneatable, for neither hot nor cold water softens it.

The Argentine corn is preferred by the natives next to African corn, although it is not so palatable. As the gentleman above quoted says, the Argentine corn is soft and arrives here in bags weighing more or less than the required weight—200 pounds. Again, the Argentine corn is, owing to its softness, attacked by weevils. I recently examined a cargo of this corn, which arrived on an American bark from the River Plata, and almost all was destroyed by weevils.

If corn, such as I have seen in the Eastern States, could be shipped here, I believe it would find a ready market. At all events, I would like to see samples forwarded.

Since writing the above, the representatives of several importers of corn, corn meal, and samp have called on me, urging me to explain to the shippers in New York the condition in which American corn is now arriving. "The corn shipped in the steamships *Allerie*, *Clan Farquhar*, *Dunblane*, and *Maristow* is musty, and the importers are suffering a loss. It is supposed that the grain was allowed to get wet when it was being bagged. Complaints to the export commission houses in New York City bring no redress."

Again, it is said, the weight is sometimes short from 12 to 15 pounds in 200-pound bags. This should not be; for, while from 1 to 2 per cent is allowed for shrinkage, the difference is too great.

Admitting the truth of these statements—which, later on, will be substantiated by affidavits—and with the fact staring us in the face that the Argentine Republic has just raised the largest crop of corn for many years, American shippers should see to it that their grain is put aboard ship dry and in good condition; otherwise, loss of trade will be the penalty.

Since the first of the year, over 50,000 bags of corn have arrived—a very fair receipt.

J. G. STOWE,
Consul-General.

CAPE TOWN, *May 8, 1901.*

OIL INDICATIONS IN SOUTH AFRICA.

Consul-General Stowe, of Cape Town, under date of May 9, 1901, transmits a report from Mr. Seavill, mining and land agent, of Kimberley, on the discovery of indications of mineral oil in South Africa, with reports on said indications by geological and mining experts, from which the following extracts have been taken:

The supposed oil belt in South Africa extends from the Ceres district across the country to Mossel Bay on the coast, 250 miles east of Cape Town. The geological formation is the Devonian period throughout, locally known as the "Bokveldt beds." The most important oil fields of the Western Hemisphere belong to the Carboniferous and Devonian periods. The marked indications of the existence of petroleum in this belt are small quantities of gas escaping near the contact between the shales and sandstone; iridescent, oily-looking patches of film upon the surface of standing water near these contacts; mysterious fires occurring on the bare veldt, burning for two or three months at a time. In the Mossel Bay district, another evidence of the existence of petroleum is found in the shape of a pitchy, bituminous substance between shales in the Gouritz River. The geological and physical character and condition of the rocks in the Mossel district are favorable. The shales of the Bokveldt series are compact and retentive in depth, while the sandstones and other beds of the table mountain sandstone which accompany the shales are well fitted by nature to act as reservoirs.

In the Ceres, Cape Colony, district, the question of the quantity of oil held in the sandstone will depend on four conditions: First, a synclinal trough where the oil can accumulate; second, that both the floor and the roof of the stratum should, to a large extent, be impervious, the floor forming the bottom of the basin, to accumulate the oil and prevent it from escaping below, the roof to still further confine it under pressure; third, that a large area of this sandstone should drain to a synclinal trough; fourth, that the country should not be broken by the intrusive action of any igneous rocks. These conditions are fulfilled on the Wagonsboom River farm, where the indications of petroleum are most noticeable. The altitude here is about 2,600 feet. A pipe line could be constructed over a natural gradient to reach Cape Town, in case a well were sunk at this point. Two small companies have been formed in Kimberley, for the purpose of securing prospective rights, and have obtained some 60,000 or 70,000 acres. A syndicate has also been formed at Kimberley, which has secured contracts covering about 200 farms in the Mossel Bay district; but, beyond getting reports and putting down a 3-inch bore hole to 120 feet on Bailies Gat, nothing has been done in the way of active prospecting. Neither the two Kimberley companies nor the Mossel Bay syndicate are in a financial position to carry on the work, nor are they, at present, able to secure the necessary capital for the purpose. The difficulties surrounding prospecting for petroleum in South Africa are very great, and may be stated as follows: First, the urgent want of experienced oil prospectors competent to decide authoritatively on oil formations and conditions, to locate proper spots for boring, and to conduct operations to any necessary depth; and, second, the want of capital. The area of country showing indications is so great and the land so cheap that it might be worth the serious attention of Americans interested in the oil industry. There are no laws in Cape Colony referring to petroleum mining, and up to quite recently the Crown has claimed no rights whatever, but the surveyor-general has had such rights reserved in all recent issues of titles to Crown lands. The contracts made give the companies from three to five years' prospecting rights free of charge, with use of wood and water included; in the event of any payable mineral being found, a twenty-five year lease to be granted to the concessionnaires, without any premium on a royalty of 5 per cent of the net profits. The contracts do not stipulate for work to be commenced within a stated time, and in most cases they give the option of the purchase of the farms outright for a moderate sum.

Africa stands seventh in value of exports of refined mineral oils from the United States.

MEAT IN SOUTH AFRICA.

As the British Government has prohibited the use of American meat for army purposes for a certain period, and as the great bulk of the tinned meat bought by the military authorities of Great Britain has been sent here (Cape Town), I have been making investigations with a view to finding if objections have been made to the American product. I obtained permission for an American, who was proceeding to Johannesburg, to stop at the different military bases and make inquiries. I give the substance of his report below:

Thousands of empty tins which have contained American beef are strewn throughout the entire route to Pretoria. The percentage of Australian is very small; I should think less than 5 per cent of the whole. At De Aar, Bloemfontein, Kroonstadt, and lesser bases, large stores of American corned beef are to be seen. The men, when questioned, state that it is very satisfactory, and I was informed by several officers that in many cases the men preferred tinned meat to the poorer fresh article.

There is a large stock of American meat at Pretoria. All the stores and shops carry it, and have had no complaints as to its quality.

I have ascertained that it is the custom at the bases to use cases of corned beef as floors, putting a layer of cases on the ground and piling thereon flour, meal, or other commodities which it is desired to protect from moisture. These cases are often so used for several months before being sent out as rations, and the tins become rusty and small holes let in the air, thus spoiling the meat, although the tin is not blown. This, in my opinion, is the principal cause of complaint.

The importation of frozen meat is in the hands of the De Beers Company, which has erected several substantial depots and installed ice-making machinery, imported from the United States, thus reducing the price of frozen meats to the consumer. It also imported refrigerator cars for transmitting meat upcountry. The company now proposes to import from Australia frozen hog products, hams, shoulders, and bacon, and to cure these after arrival. It is reported that the difficulty in curing frozen meat has been solved in New Zealand, and that a London company is applying the new process. It would seem cheaper to import cured meats than to import frozen ones and cure them. The import of hog products into South Africa up to date has been limited. The following clipping will probably amuse our home packers:

NEW COLONIAL INDUSTRY.

The De Beers Consolidated Mines, Limited, Cape Town, are just completing the erection of a proper modern building for the pursuance of the ham and bacon curing industry. Hitherto, the colony has been mostly supplied with bacon from America and England, but the manufactured article does not lend itself well to long-distance carriage. Only some parts—but those unfortunately the least nutritious—of a side of bacon (as for instance the belly piece) have so far been imported with some measure of success, but those who have been used to a good rasher of bacon from the back or gammon have been clamoring hitherto in vain for the bacon of the old country. The fact is that bacon, like fruit and eggs, is best consumed in the country of its production, and as steamers with freezing space now come regularly to this port, the finest dairy-fed pork from Australia and New Zealand can be landed here in a frozen state and be cured here, even as it is done in London. It goes without saying that the De Beers Company have secured the services of the best expert to manufacture the article, and it will be good news to many people, especially those whose digestion is not too strong, that they will shortly be able to procure mild bacon for boiling, frying, or baking purposes, just like in the old country—nutritious, without being heavy to digest.

J. G. STOWE,
Consul-General.

CAPE TOWN, *May 11, 1901.*

TRADE NOTES FROM WEST AFRICA.

Consul-General Smith sends from Monrovia, May 21, 1901, newspaper clippings bearing upon West African commerce, as follows:

GOLD COAST.

Considerable activity prevails at Sekondi, and the resources of the town are strained to the utmost to find accommodation for the crowds of prospectors, engineers, and mining people generally disgorged by every steamer. A tremendous lot of goods is arriving every week—hundreds of tons of stores, without counting machinery. There is some talk of the governor of the colony removing from Accra to Sekondi. Sekondi, besides being the starting point of the railway, is the only possible port on the Gold Coast. A natural breakwater makes landing in keel boats practicable, and a pier is being built which will carry the trucks out straight to the lighters. The expenditure of a comparatively small sum in harbor works would make it by far the most flourishing place on the coast. At Accra, the surf makes passenger traffic dangerous and goods and machinery ruinously expensive. A large number of prominent American managers are going up and down between Sekondi and Prestea. Mining prospects generally are, without doubt, far more bright than ever in the past, and now that money is being poured into the country by the big mining companies and the numberless exploration syndicates, the Gold Coast, as a great mining field, should soon justify the confidence reposed in it.

It is said that Messrs. Elder, Dempster & Co., recognizing the necessity of providing for the great development in passenger traffic to the Gold Coast, have decided to inaugurate a rapid trimonthly service from Liverpool. The only port of call between Liverpool and the Gold Coast will be Monrovia, where there will be a stay of an hour or two. From the Gold Coast, the steamers engaged in the new service will proceed to Lagos and other ports according to the ordinary time-table arrangement. It will now be possible to go from Liverpool to the Gold Coast in thirteen days.

LIBERIA.

It appears that the President of the Liberian Republic is going to England with an influential deputation of Liberian statesmen, to discuss financial, commercial, and shipping matters connected with the more thorough opening up of Liberia to British trade and commerce. There can be little doubt that if the visit takes place results of great importance will accrue therefrom.

FRENCH WEST AFRICA.

The French have sent a sanitary commission to the west coast. The commission is at present at Dakar, Senegal, investigating the causes which lead to the periodical outbreaks of yellow fever in that country and the best means which can be adopted to combat this deadly disease. It will subsequently visit the other French colonies in West Africa.

IMPORTS OF THE CANARY ISLANDS.

From a report of the French consul at Las Palmas, the following data as to the annual imports of leading articles into the Canary Islands are taken:

Paper.—Packing and writing paper comes mostly from Germany and Spain; value, 265,000 pesetas* ($42,400).

Wall paper.—In about equal quantities from Germany and England; value, 210,000 pesetas ($33,600).

Perfumeries.—The French article is mostly in demand. Germany and England furnish cheaper toilet soaps; value, 210,000 pesetas ($33,600).

Bronze goods.—Parisian manufactures are in great demand. In some kinds Germany competes; value, 60,000 pesetas ($9,600).

Jewelry and watches.—Mostly from Germany. The United States, Germany, and Switzerland furnish clocks; value, 261,000 pesetas ($41,760).

Firearms.—Belgium supplies cheap kinds.

Petroleum.—Exclusively from the United States; value, 350,000 pesetas ($56,000).

Wax candles.—English brands, on account of low price, have preference; value, 95,000 pesetas ($15,200).

Oils.—Olive oil is used in large quantities; it comes mostly from Sevilla. French and Italian find less favor; value, 390,000 pesetas ($62,400).

Wine.—Only French champagne is imported; value, 27,000 pesetas ($4,320).

Wood and goods of wood.—Building timber and wood for cabinetwork come from the United States and Sweden. Of wooden furniture, the more common kinds come from Spain; the finer ones from France and England; value, 750,000 pesetas ($120,000).

Iron bedsteads.—The Spanish make has a monopoly of the market; value, 95,000 pesetas ($15,200).

Cutlery, etc.—Imported mainly from Germany. Some of the finer kinds of table s and divers instruments from Sheffield; value, 27,000 pesetas ($4,320).

Cement.—Until recently, English cement only was in demand. Now, the Belgian product, on account of lower price, is taken; value, 325,000 pesetas ($52,000).

Glass and porcelain.—The cheaper grades of glassware come from Belgium and Germany. The finer kinds, as well as faïence and porcelain goods, are almost exclusively imported from France; value, 178,000 pesetas ($28,480).

Preserves.—Imported from England, France, and Spain; value, 135,000 pesetas ($21,600).

Chemicals and pharmaceutical goods.—Imported from France, Germany, and Spain; value, 182,000 pesetas ($29,120).

Chemical fertilizers.—Imported from England and Germany; value, 800,000 pesetas ($128,000).

Leather and leather goods.—Mostly from Spain; value, 795,000 pesetas ($127,200).

Spirits.—Exclusively from Germany; value, 970,000 pesetas ($155,200).

Cereals.—Wheat, barley, and corn are imported from Morocco and the Argentine Republic, if home crops are insufficient; value, 1,280,400 pesetas ($204,864).

Flour.—From France, Spain, and the Argentine Republic.

Ironwares.—Imported mostly from Germany; value, 204,000 pesetas ($32,640).

RICHARD GUENTHER,
Consul-General.

FRANKFORT, *June 12, 1901.*

---

* In the reductions throughout this report, the peseta is valued at 16 cents.

PRODUCTION OF COCOANUTS AND COPRA IN SOUTH AMERICA.

In compliance with the request of a resident of Philadelphia, a Department instruction was sent, under date of April 19, 1901, to certain consular officers in South America requesting information in regard to the cultivation of cocoanuts and the manufacture of copra. The answers that have been received are given below.

BRAZIL.

Consul Furniss reports from Bahia, June 17, 1901:

Although a great many cocoanuts are raised in the Bahia consular district, it does not produce one-third as many as the Pernambuco district, which is particularly rich in cocoanut palms, on account of its peculiar coast formation.

In the Bahia district, the trees are found wherever there is a settlement, but grow chiefly on the strip of low-lying sandy land along the coast. I am informed that this land is the most desirable for cocoanut plantations, as the proximity of the salt water makes the trees more productive and the fruit a better quality. Occasionally, a piece of land is found at a considerable distance from the coast upon which the palms will flourish, but this is unusual. Single trees are scattered here and there inland; but these are raised with considerable difficulty, produce only an indifferent fruit, and die at an early age.

The number of trees and their productiveness increases as the Pernambuco district is neared and decreases in the same ratio southward. The largest plantations are a short distance north of Bahia City, where, I understand, there is one that has more than 7,000 and several which have as many as 5,000 trees each; but no particular efforts at cultivation are made. The cocoanuts have simply been planted and allowed to come up and produce what they will, the fruit being gathered from time to time. The owners are usually engaged in other businesses; the proprietor of the large plantation above mentioned, for instance, is a local merchant.

It is impossible to get any information as to the extent of the cocoanut crop. The nuts are gathered in all seasons and are used both in the green or soft and in the ripe or hard state by all classes. The yield, however, must be enormous, as there are few households that do not use the nuts in some form or other, and in spite of the vast number of trees the supply does not seem to equal the demand.

Before the shell of the nut becomes thick and hard and while the meat is soft and about the consistency of clabber, many of the nuts are gathered and sold upon the street corners and in the drink shops. The nuts are cut open with a machete. The milk proves a most refreshing drink, while the meat is eaten with a spoon or, more often, with a sliver cut from the shell. No attempt is made to husk the nuts so used, though frequently a portion of the husk is trimmed off to lessen weight for transportation.

The hard-shelled or ripe nuts have various uses. When of good quality, they are sold at retail. Many kinds of sweetmeats are also made from them, while the milk and the meat, variously prepared, are constituent parts of many articles of daily diet, such as fish, stews, beans, rice, corn, etc. The ripe nuts are always sent to market husked. They are brought here by small sailboats, which ply up and down the coast, and on account of the demand are sold at comparatively high prices. The price paid for them at the plantations range from 9 to 14 milreis ($2.18 to $3.36) per hundred (without respect to size), according to season, the wholesale price in Bahia City being a couple of milreis higher per hundred. The retail price is from 120 to 320 reis (2.88 to 7.68 cents) per nut, according to size and season.

There is such a demand for good nuts at Rio de Janeiro and other points south that it is far more profitable to ship the nuts there than to utilize them in the manufacture of copra; and even if the prices at local markets were not so good, there would, nevertheless, be no nuts for foreign export.

It is only the nuts that have been left too long on the trees that are utilized in the manufacture of by-products. From these nuts the oil is crudely extracted by grinding the meat, submitting it to pressure and purifying the resulting liquid, or by grinding and boiling the meat and skimming the oil. This oil is used for machinery, lamps, cooking, soap making, etc. It is also used by the resident Africans for hair oil and for annointing the body. It sells at wholesale at the place of manufacture at from 800 to 1,200 reis (19.2 to 28.8 cents) per liter.

There is still a great amount of uncultivated land well suited for cocoanut plantations, but I doubt whether it would be possible to get anyone interested in raising cocoanuts with a view to making copra. Few trees are being planted; yet I am told it requires no labor other than that of putting a mature nut into the ground prior to the rainy season, and that after five or six years the trees will bear almost indefinitely.

COLOMBIA.

CARTAGENA.

Consul Ingersoll, of Cartagena, May 9, 1901, writes:

Anything like accurate information in regard to the cultivation of cocoanuts and the production of copra can not at present be given, owing to the conditions that prevail throughout this district as the direct result of the revolution that has been going on in this country for the past year and a half. Under ordinary conditions, the raising of cocoanuts is an interest of considerable magnitude, and a fair amount of attention is bestowed upon the groves and the collection, husking, sorting, and packing of the nuts. It may be said that, with rice, the cocoanut is the main source of food supply of the natives of the coast.

Owing to the above-mentioned conditions, the extent of the cocoanut crop of this district is unknown. Cocoanuts are grown both for home consumption and export. They are not shipped in the husk. The price at the present time is from $12 to $14 gold per thousand. No copra is made here, and until business conditions improve and planters become aware of the profit to be made, the prospects of getting them interested in the manufacture of this article are very slight. Some of the planters are financially able to embark upon this project, but they would have to be convinced that there would be money in it. Regular lines of steamers run to New York, New Orleans, and Galveston.

COLON.

Consul Malmros writes from Colon, May 7, 1901:

Cocoanut plantations in this district are confined to a strip of land contiguous to the Atlantic coast and to the island of San Andres, belonging to Colombia, lying about 275 miles from Colon in a northwesterly direction. There are no plantations in the interior. On the coast, by far the greater proportion of cocoanuts is raised by the San Blas Indians, on a strip of country about 125 miles long, extending from Point San Blas to Point Tiburon. Besides the plantations owned by these Indians, there is only one other on the coast—the Caribbean Cocoanut Plantation, at Point Toro, across the bay from Colon. This plantation consists of about 20,000 trees.

The entire cocoanut crop of the coast amounts to about 4,000,000 nuts a year; that of the island of San Andres to about 2,500,000.

Cocoanut trees are raised by first putting the dry nut on the ground and allowing it to sprout until it attains a height of about 2 feet. The nut is then put in a hole just deep enough to receive it, the sprout remaining above ground. The only attention the palm requires is to keep it free from weeds and other plants until it is five or six years old. After this age, it is able to protect itself, and the ground requires very little cleaning. Trees properly attended to will bear in from five to six years.

All nuts raised in this district are sent to the United States. They are never shipped in husk.

The market price fluctuates between $21 and $40 per thousand. From March to September, it rarely reaches more than $25; from September to March, from $25 to $40.

No copra is made in this district. Aside from the Caribbean Cocoanut Company, none of the planters could afford an outlay of from $3,000 to $5,000 gold to manufacture it. The Caribbean Cocoanut Company is in a position to draw on the whole coast line for nuts, and is prepared to go into the copra business if it can do so advantageously.

Nearly the entire crop of cocoanuts of this district is shipped to New York via the steamers of the Panama Railroad Steamship Company. Very rarely a few small cargoes may be shipped to New Orleans or some other port in the United States. There are no transportation lines between this coast and Philadelphia or Baltimore. The only line of freight ships besides the Panama Railroad Steamship Company connecting this coast with a port in the United States is the Leyland Line. The ships of this line run at irregular dates, twice a month, between Colon and some southern port in the United States, usually New Orleans, touching on the way at several Mexican ports and Kingston, Jamaica.

ECUADOR.

Vice-Consul-General Reinberg writes from Guayaquil, May 18, 1901:

The cultivation of cocoanuts receives very little attention in Ecuador, most of the palms being grown as side issues upon the various estates. The few raised are for local consumption only; none are shipped. The price is 10 cents silver (4½ cents in United States currency) per nut, retail.

There is no demand here for copra, nor is any made; indeed, most of the planters do not understand the meaning of the word. Whether planters could be induced to take up the drying of the cocoanut is rather doubtful, as they prefer to get 10 cents per nut by raising a small amount at a small cost, rather than enter into anything about which, as a rule, they have not the remotest idea.

Furthermore, they think that increasing the supply of nuts would have the effect of cheapening the present price. If, however, by means of capable agents, the matter could be fully explained to them—if they could be made to see that there would be a profitable market for their product—I know of no reason why they should not become interested. Most of the planters have sufficient money to put up a plant, but they must first be convinced that the manufacture of copra would pay.

As to transportation facilities, there are two lines from New York to the Isthmus; from there, three (Kosmos, Pacific Steam Navigation Company, and Compania Sud-Americana Vapores) to Guayaquil. There are also two lines from New York (Merchants and West Coast lines) to Guayaquil direct via the Straits of Magellan.

THE GUIANAS.

Under date of May 10, 1901, Consul Moulton, of Demerara, says

The cocoanut crop of British Guiana amounts to about 5,000,00 nuts annually. The cultivation of cocoanuts receives considerable attention in the district of Mahaicony, about 30 miles up the east coast from Georgetown, in the vicinity of the Decerara and Berbice Railway. The nuts are mostly made into oil at the oil and fiber mills at Mahaicony, and the product is sold and consumed in the colony. Less than 2,000 husked nuts were exported last year. These were shipped to the British West India Islands.

The prevailing price in the local market is from $8 to $10 per thousand.

No copra is made. It would, however, be quite possible to interest the planters in this industry, if adequate pecuniary inducements were offered.

I am advised that the following-named planters, whose post-office address is Mahaicony, British Guiana, are financially able to undertake the manufacture of copra:

T. M. Gordon, Pln Spooner.
C. A. Parett, Pln Broomlands.
T. Barlow, Pln Sophias Hope.
William Smith, Pln Park.
Miss Musterd, Pln Letter T.

Only about 500,000 nuts per annum are produced in Dutch Guiana, and an insignificant number in French Guiana. These are consumed locally.

The vessels of the Quebec Steamship Company, the Armstrong Steamship Company, and the Royal Dutch Mail Steamship Company ply regularly between New York and Demerara via the West **India Islands.**

PERU.

Consul Dickey, of Callao, May 28, 1901, says cocoanuts are not raised to any extent in Peru, and that from information at hand he does not believe the extension of their cultivation in that country practicable.

VENEZUELA.

LA GUAYRA.

Consul Goldschmidt, of La Guayra, May 15, 1901, writes as follows:

The district covered by this report includes La Guayra, Barcelona, Cumana, and Carupano. At La Guayra, the annual crop of cocoanuts amounts to about 1,000,000. At Barcelona and Cumana, however, it is much larger; I am told that the latter could easily furnish 5,000,000 nuts a year. The cultivation of cocoanuts receives very little attention in La Guayra, and practically no efforts are made to extend their growth. There is no reason, however, why the present area should not be increased, as the palm thrives wonderfully along the coast, and nearly all of the land within half a mile or a mile of the sea could be utilized. The greater part of this strip is useless for any other purpose.

The nuts grown in the La Guayra district are mostly absorbed by the local retail trade of the cities of La Guayra and Caracas, a great many being sold to the natives, who drink the milk. The nut is also used for cooking, confectionery, etc. In Cumana, most of the crop is manufactured into oil. This oil is said to be of an excellent quality. A few nuts are occasionally shipped from La Guayra to the United States, but the trade is not profitable. The harbor dues on all kinds of freight is $4 a ton, and planters find that it pays them better to hold the nuts for local consumption. Cocoanuts are never shipped in the husk.

In La Guayra the price of cocoanuts is from $2.50 to $5 gold per hundred; in Cumana, from $2 to $3.

No copra is made in this consular district, but I believe planters could be interested in the scheme. Most of them are financially able to undertake the manufacture of the article, provided their investments yielded profitable returns.

Transportation facilities from La Guayra to New York are good, there being, on an average, three steamers of the "Red D" Line each month. The Dutch Line steamers to New York also touch twice a month at Carupano, Cumana, Barcelona, and La Guayra. There are no vessels running between these ports and Philadelphia or Baltimore. Occasionally, coal schooners bring cargoes from the United States, returning light. Such vessels might be chartered at reasonable rates.

PUERTO CABELLO.

Consul Ellsworth sends the following, dated Puerto Cabello, May 10, 1901:

The production of cocoanuts in this consular district is limited, as there are but few trees. Very little attention is paid to their cultivation and the supply is decreasing. The soil, however, is excellent for the growth of this palm.

The nuts are marketed here green for the cocoanut water they contain; ripe, for the meat, from which oil for soap making and other purposes is extracted, and as copra, for foreign shipment. The green cocoanuts are sold for about 1 cent each, ripe ones at about the same price, and copra for about 2½ cents per pound. About 100,000 pounds of copra are shipped annually from this district. Sun drying is apparently the only method employed. The quality is fair. England, Holland, and Germany take all of the product.

I doubt the possibility of so interesting planters that they would set out more trees, and even if it were possible to do so, about six years must elapse before the palm will produce. Again, the planters in this district are not able financially to invest the necessary amount to produce copra on a large scale, even with the prospect of a profitable market for their production.

The transportation facilities are excellent, the Red D Line (Boulton, Bliss & Dallett, agents, New York) and the Prinz William Line (Kunhardt & Co., agents, New York) having steamers that ply regularly between Puerto Cabello and New York.

RUBBER IN VENEZUELA.

Consul Goldschmidt writes from La Guayra, May 20, 1901:

I transmit herewith an article from the Venezuelan Herald treating of the production of rubber in this country. Recently, several individuals have gone into the planting and exploiting of rubber in Venezuela on a rather large scale.

I think that rubber will in the future form a large export staple, which shows that Venezuela can diversify its agriculture. The resources of this country are vast and almost undeveloped in the interior. Ciudad Bolivar, the commercial center on the Orinoco, is already exporting considerable quantities of rubber, as well as balata, etc., and will in the near future be one of the chief markets for this commodity.

THE EXPLOITATION OF CAOUTCHOUC ON THE UPPER ORINOCO.

[From the Venezuela Herald.]

The region of the Upper Orinoco, lying between the River Orinoco, the Casiquiare, the Guaima, and the Atabapo, forms a plateau of savannas and forests 230 to 270 meters (755 to 886 feet) above the level of the sea. The southern part of this plateau is drained by the Amazon and the northern part by the Orinoco.

The Amazon, as is well known, is the largest storehouse of caoutchouc in the world. Of the 55,000,000 kilograms (121,253,000 pounds) of caoutchouc produced in the year 1899–1900, more than 25,000,000 (55,115,000 pounds) came from the Amazon. The caoutchouc is of the finest and commands the highest price.

It is on the shores of the Amazon and its numerous affluents that the caoutchouc trees are exploited, and among the affluents is the Rio Negro, which takes its rise in Colombia and serves as boundary between that country and Venezuela for upward of 30 leagues before entering Brazil. The banks of the Venezuelan Rio Negro and of the Casiquiare (an affluent of the Rio Negro) contain numerous areas where caoutchouc trees are found in large numbers. The trees are of the family *Heveas*. They yield a white milk, which is collected and is transformed by coagulating with smoke into balls of caoutchouc weighing about 20 kilograms (44 pounds) each.

This wealth of caoutchouc trees continues along the banks of the Orinoco, especially as far as the mouths of the Kentuario. The trees are found in groups which are farther and farther apart as we descend the Orinoco. The trees are scattered about in families in forests composed of many other precious woods. The workmen, in order to exploit the caoutchouc, make tracks or entrances starting from the bank and going into the forest; they find 100 to 150 and sometimes 200 trees per track. It is rare for a track to extend more than 1 kilometer (0.62137 mile). The plantation, which extends from the branching of the Casiquiare to the mouth of the Kentuario, covering 7 kilometers on each bank, has an area of 360,000 hectares (889,560 acres) and contains more than half a million caoutchouc trees. They are found in greater number on the right bank. The crop is gathered carefully, so that they are well preserved and yield each year.

The immense plateau of the Upper Orinoco, where the missions were formerly situated, is isolated by the rapids. Navigation on the Orinoco is easy from its mouth to Atures, where the rapids, scattered over about 30 kilometers (18.64 miles), can be ascended only by light canoes. Beyond Atures, covering about 60 kilometers, are the rapids of Garcita, Balo Pilado, and Guahibos; the first two are at all times navigable, but the last, owing to the power of the current along the narrow channel, can be ascended only during six months of the year, and then only by canoes drawn by ropes; a little farther up we encounter the rapids of Maipures, which do not measure less than 8 kilometers (5 miles) and are altogether impassable.

From the mouth of the Kentuario, at which the Casiquiare branches, no further obstacle is to be found.

On the side of the Rio Negro, the rapids of the region of San Gabriel are the counterpart of Atures and Maipures in the Orinoco, but offer fewer difficulties. They can be ascended by steamships, if towed with rope at certain points.

The difficulty of communication will be overcome by installing overland routes along the Orinoco rapids, and by lines of native boats of 10 to 20 tons over the rapids of the Rio Negro. Along the Orinoco rapids, overland transport is comparatively easy. The River Atabapo could be bridged at its narrowest part. A donkey or mule path, about 70 kilometers (43 miles) long, could be made from Atures to the River Samariapo, above Maipures. At Samariapo, there are excellent pasture lands for animals. The principal difficulty, therefore, is not that of transporting merchandise, but of launching steamships on the upper river; nevertheless, some years ago, a French company took steamships into the region of the rapids mentioned above. A service which connected Ciudad Bolivar with San Fernando de Atabapo and San Carlos by the Orinoco and the Casiquiare existed for many years. The company's ships in the lower river made the voyage twice a month from Ciudad Bolivar to Atures; a day was spent in conveying the goods overland along the rapids of Atures, and another ship continued the journey from Atures to Maipures. In the same way, a day was given to overland transport at Maipures, and a steamship went from there to San Fernando de Atabapo in fifteen to eighteen hours. The service was performed regularly between Ciudad Bolivar and San Fernando in nine to ten days at most.

When once communication has been established, it will be easy and safe to exploit the caoutchouc lands of the Orinoco as those of the Casiquiare.

Two enterprises working in harmony—one on the Casiquiare and the other on the Orinoco—could assist each other in their means of communication and revictualing. The difficulties of the rapids of the Orinoco and of the Rio Negro are as nothing compared with those of San Antonio in the River Madeira, and nevertheless flourishing plantations exist in Bolivia above this region of rapids, which covers nearly 300 kilometers (186 miles).

All the trade between Brazil and Venezuela passes by the Rio Negro, and the market at Manaos is properly stocked.

The laborers in the southern rivers of Brazil work during six months of the year, and collect 500 kilograms (1,102 pounds) of caoutchouc, which is paid for partly in goods and provisions and partly in money. The laborers of the Rio Negro are scarcely able to collect 250 kilograms (551 pounds), but it must be borne in mind that they generally work only three months of the year, through lack of provisions.

The caoutchouc is bought by the kilogram (2.2046 pounds), and therefore it matters little how much time the workmen spend in collecting it, only it would be necessary to have double the number of hands on the Rio Negro as on the southern rivers, to obtain a like production.

On the Orinoco, in 1899, the caoutchouc was paid for at the rate of 4 to 5 francs per kilogram (77 to 96 cents per 2.2046 pounds); but the greater part was paid in merchandise, on which large profits is gained. Mention must also be made of the export duty of 0.25 franc (4.8 cents) per kiiogram, the expenses of packing, shipping, etc. The cost per kilogram in the United States and in Europe reaches 6 to 7 francs ($1.15 to $1.35), and it used to be 12 francs. This will show the profits that can be obtained from this business.

There are caoutchouc enterprises in Brazil which export 300,000, 400,000, and even 500,000 kilograms (661,380, 880,840, and 1,102,300 pounds) annually. If the business is well managed, the clearance should be 100 per cent. The capital invested consists of the cost of the property, of buildings, the material employed, and general current expenses. The rest of the money invested, which of course will be an important sum, is a rolling capital which every year goes out and comes back in the purchase of provisions, etc., which are distributed on the spot, and in return for which the caoutchouc is received.

In Brazil, the expenses of exploitation are 20 to 25 per cent ad valorem, according as it is shipped from Ilanaos or from Belem de Paria. In Venezuela, there is a fixed duty of 0.35 bolivar per kilogram (6¾ cents per 2.2046 pounds). The high export duty in Brazil has given rise to large exploitations in Bolivia and Peru, where only 8 to 10 per cent ad valorem is paid.

The value of a caoutchouc plantation depends on the number of trees and on the number of laborers. We have already said how much caoutchouc one laborer can gather. It is estimated in Brazil, that one tree yields 6 kilograms (13.2 pounds) of the juice.

The product is divided into three classes—fine, moderate, and cemanby. In a carefully gathered crop, two-thirds should be fine and the other third be divided between moderate and cemanby. When the fine is worth 12 francs ($2.32), the moderate should be worth 11.60 and 8 to 9 francs ($2.24 and $1.54 to $1.74).

The above indications should be sufficient for those who desire to exploit caoutchouc in the region of the Upper Orinoco.

PEARL FISHERIES IN VENEZUELA.

Considerable interest having lately been evinced in the United States regarding the Venezuelan island of Margarita, I transmit a short description of one of the principal sources of the island's wealth—its pearl fisheries. The pearls of Margarita have been known to white men since the discovery of the island by Columbus and his followers. It was on this island, and on the mainland adjoining, that the Spaniards found the natives decked with pearls. History claims that these pearls were one of the prime causes of trouble among the adventurers who first visited and settled on these shores.

Pearls having lately risen in value, there has been extraordinary activity on the island. Buyers from different parts of the world reside there and purchase from the native fishermen the products wrested from the depths.

About four hundred sailboats are used by the natives in the fisheries of Margarita and its neighboring islands of Coche and Cubagua. The principal beds are at El Tirano, northeast, and Macanao, northwest of Margarita. About two thousand men find constant employment in this trade. The fishers use metal scoops, which are dragged over the oyster beds and, when filled, brought to the surface, where the shells are opened and carefully examined. The boats in use are from 3 to 15 tons, and pay to the Venezuelan authorities 15 bolivars ($2.90) each for permits to fish.

The pearls are very fine in quality, beautiful in luster, and run from white to yellow; occasionally a black one, priceless in value, is brought to the surface. One white pearl of large size and good quality was sold in Margarita within two weeks for $1,700. The shell of the oyster is not of much commercial value, being too thin for the manufacture of buttons and other fancy articles, such as are made from the oriental pearl shell; this is due, I am told by an authority, to the short life of the Margaritan pearl oyster, eight years being about the average age.

Pearls from dead oysters have very little value, as they loose their luster.

A French company has recently started fishing for pearls by means of divers and diving apparatus, and expects great results from the enterprise. The divers claim they can select the larger oysters and leave the smaller undisturbed, giving them time to grow and increase in value.

This company, of which M. Grunberg, a prominent Paris jewel merchant, is the head, purchased this concession from a Venezuelan, and must pay the Venezuelan Government 10 per cent royalty on the profits of the enterprise.

The value of pearls found near Margarita is estimated at about $600,000 per year. Most of these pearls go to the Paris market, which, sellers claim, gives the best results.

If the new method adopted by the French company is successful, the output of pearls will be considerably increased in quantity and value in the future.

I have tried to induce merchants here to ship pearls to New York, but they claim that the Paris market gives more satisfactory returns.

LOUIS GOLDSCHMIDT,
Consul.

LA GUAYRA, *May 25, 1901.*

TRADE NOTES FROM VENEZUELA.

Consul Goldschmidt sends from La Guayra, May 18, 1901, a description of the merchandise which the United States should sell in Venezuela, but which at present has only scant representation in the warehouses of the country. He enumerates the following articles:

Cotton fabrics, such as prints, ginghams, bleached and unbleached cottons, nainsooks, muslins, lining cambrics, silesias, cottonades for men's clothing, shirting cottons, and other goods in that line suitable for tropical trade.

Small wares, such as pins, needles, tapes, elastics, and toilet and other articles generally known as "notions."

Hardware, such as hollow ware and the hundreds of useful kitchen utensils which are strictly American in their handiness and ingenuity.

Silks, ribbons, hats, and caps.

All materials for the manufacture of shoes, such as leather of all kinds, trimmings, linings, etc. There is a prohibitory tariff on shoes in Venezuela.

Leather for the manufacture of saddles and kindred articles.

Wrapping paper of all kinds, toilet paper, and paper for printing purposes; also wall papers.

Furniture of all kinds, iron bedsteads, etc.

Trunks, satchels, and traveling articles.

Underwear, hosiery, etc.

Revolvers, knives, machetes.

Silverware for table and toilet uses.

The consul adds:

The trade of Venezuela, as of many other Spanish American countries, is profitable. The merchants here compare favorably, as a rule, with those of any country.

When we consider the amount of United States merchandise sold in Venezuela (according to statistics, we lead all countries), I can not help thinking that this success is due, not to the trade methods of our exporters, but to the superiority of our goods. If this is the case under the present conditions, how much more successful would we be if we sent abroad men who had the interests of their employers at heart, who understood their business, and who spoke the language of the country to which they were sent.

I have been in Venezuela four years, and in that time the number of American mercantile travelers arriving at this port (the most important commercially of this country) can almost be counted on the fingers of my hands, whereas not a steamer arrives from Europe that does not bring French, German, or English commercial travelers. These men, especially the Germans, systematically visit this country and are thoroughly acquainted with the wants of the trade. They have letters of credit to the most important houses, which gives them a standing that is hard to shake. But in spite of all this, an American traveler comes here occasionally, and goes home with his order book well filled. With proper efforts, we would win the now neglected South American trade.

TRADE OF PUERTO CABELLO.

Consul Ellsworth sends from Puerto Cabello, May 30, 1901, statements of the imports and exports of that port for the six months ended December 31, 1900, as follows:

Imports by articles.

Article.	Quantity.	
	Kilograms.	*Pounds.*
Agricultural implements	13,647	30,086
Apples	7,602	16,759
Bran	68	150
Brewery supplies	6,886	15,181
Blacking	130	287
Bottles, empty	17,370	38,294
Barrels, empty	2,390	5,269
Barley	3,280	7,231
Beer	89,081	196,388
Butter	85,936	188,264
Canned goods	11,064	24,392
Creolene	8,219	18,120

Imports by articles—Continued.

Article.	Quantity.	
	Kilograms.	*Pounds.*
Confectionery	14,133	31,158
Cement	322,752	711,539
Corks	671	1,479
Cigarettes	194	428
Paper for	3,569	7,868
Crackers	31,514	69,476
Cornstarch	16,985	37,445
Cheese	19,666	43,356
Candles, tallow	7,576	16,702
Candle wicks	332	327
Disinfectant	229	505
Demijohns, empty	10,002	22,050
Dry goods	1,558,137	3,435,069
Drugs and medicines	275,857	608,154
Electric-light materials	1,691	3,728
Flour:		
Wheat	712,825	1,571,494
Cocoa	14	31
In tins	131	289
Sago palm	2,265	4,998
Fruits, dried	8,554	18,858
Fishing materials	3,580	7,892
Fish, dried	12,792	28,201
Firecrackers	1,999	4,407
Glue	437	963
Hardware	316,574	697,919
Hams	20,823	45,906
Hat materials	959	2,114
Iron, galvanized	3,765	8,300
Liquors	32,045	70,646
Leather	4,922	10,851
Lard	137,407	302,927
Miscellaneous	4,892	10,785
Matches	3,200	7,055
Meat, salted	672	1,481
Mustard	48	106
Machinery	26,321	58,027
Olives	11,077	24,420
Oats	453	999
Oatmeal	26,662	58,779
Oil:		
Kerosene	527,484	1,162,891
Sweet	97,369	214,660
Almond	247	545
Linseed	438	966
Onions	17,886	39,432
Oakum	216	476
Pickles	5,932	13,078
Paint	15,262	33,647
Paper, wrapping	142,857	314,943
Potatoes	23,260	51,279
Perfumery	14,129	31,149
Plants	2,235	4,927
Pease	311	686
Rice	653,066	1,439,749
Rope	86,759	191,269
Rosin	144,156	317,806
Railway supplies	46,619	102,776

Imports by articles—Continued.

Article.	Quantity.	
	Kilograms.	*Pounds.*
Seeds	16,229	35,778
Sirups	1,582	3,488
Sauces	4,869	10,734
Spices	34,013	74,985
Stearin	104,435	230,237
Sardines	59,313	108,715
Stationery	8,531	18,807
Telegraph supplies	945	2,083
Tea	59	130
Trees	72	159
Tobacco	7,989	17,613
Tombstones	2,050	2,315
Twine	35,469	78,195
Timber	43,444	95,777
Vinegar	4,298	9,475
Vermicelli	760	1,675
Vegetables	56	123
Waters, mineral	12,923	28,490
Wire, barbed	37,757	83,239
Wines	474,689	1,046,499
Wagon materials	894	1,971
Windmills	3,219	7,097
Yarn	72	159

Imports by countries.

Country.	Quantity.	Value.
	Pounds.	
United States	5,406,005	$308,039
Germany	3,513,482	247,454
France	465,697	82,903
Italy	356,773	22,752
Holland	721,854	84,429
Spain	1,042,311	71,484
England	2,764,897	580,773
Total	14,271,020	1,397,834

NOTE.—The United States sends to Puerto Cabello dry goods, drugs and medicines, flour, hardware, hams and lard, kerosene oil, rice, rosin, barbed wire, etc.; Germany sends beer, cement, dry goods, drugs, hardware, wrapping paper, and rice; France, dry goods, liquors and wines, sweet oil, and sardines; Italy, hardware, sweet oil, and wines; Holland, dry goods, drugs, and stearin; Spain, dry goods, olives, sweet oil, sardines, and wines; England, cement, beer, agricultural implements, dry goods, drugs, flour, hardware, lard, kerosene oil, wrapping paper, rice, rosin, stearin, and wines.

Exports by articles and countries.

Article.	United States.	Cuba.	France.	Germany.	Holland.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Coffee	1,439,164		3,874,347	632,964	22,572
Cacao	8,360		324,507	90,997	1,133
Cattle*		17,729,749			114,805
Cocoanut meat				9,011	3,630
Fresh fruits					257,307
Ginger	412				
Horns				7,328	
Hides:					
Ox	539,876		6,972		22,222
Deer	17,238		3,135		1,404
Goat	147,322		11,959	10,578	
Iron, scrap			90	5,782	15,185
Leather, sole					1,100
Miscellaneous			314	32,131	23,168
Spurge seed			150,242	4,328	
Tonka beans					438
Timber			146,784	247,337	138,556
Total	2,152,372	17,729,749	4,518,350	1,040,456	601,520

Article.	Spain.	Italy.	England.	Total.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*
Coffee	616,024	5,106	6,590	6,596,767
Cacao	58,670	6,061	7,423	497,151
Cattle				17,844,554
Cocoanut meat			15,244	27,885
Divi-divi		36,960		36,960
Fresh fruits				257,307
Ginger				412
Horns		3,454		10,782
Hides:				
Ox		2,616		571,686
Deer				171,263
Goat				20,373
Iron, scrap		71,161		92,218
Leather, sole				1,100
Miscellaneous	99	16,859	88	72,659
Spurge seed		110		154,680
Tonka beans				438
Timber				532,677
Total	674,793	142,327	29,345	26,888,912

* 20,105 head of cattle to Cuba and 192 head to Holland.

The value of exports in United States currency was $1,640,115.

KAOLIN CLAY IN BRITISH GUIANA.

Kaolin clay is known to exist up the Demerara, Berbice, and Corentyne rivers in this colony. Outcroppings may be seen in several places in the sand and clay formation which extends parallel with the coast for a distance of 150 miles.

Analyses of specimens from various districts show the superiority of the Corentyne article for the manufacture of the finer grades of porcelain and china ware. Presumably, equally as good clay could be found in the other districts by prospecting the surface outcroppings up the Berbice and Demerara rivers.

In addition to the uses stated, kaolin clay may be made into bricks, briquettes, molds, tiles for roofing, pottery, pavement, cement, and concrete. Special emphasis is placed on its merit as an ingredient for concrete, and local parties have demonstrated to their apparent satisfaction that their product is stronger, more durable, more easily laid, and would be 10 per cent cheaper in New York than the best now on the market. Their best briquettes broke under a tensile strain of 825 pounds on a cross section of 2 square inches. Inferior grades of this clay, containing a greater percentage of extraneous substances, would probably answer fully as well for concrete.

Following is a copy of the analysis of the Corentyne River clay (locally called "kaolinite") by Professor Harrison, the government analyst:

Description.	Composition of the kaolinite.	Clay in kaolinite.
	Per cent.	*Per cent.*
Moisture	0.75	1
Combined water	8.1	10.78
Titanian oxide	Traces.	Traces.
Iron peroxide	1.21	Traces.
Alumina	24.16	32.17
Calcium oxide (lime)	.39	.52
Magnesia	.27	.36
Potash	.04	.05
Soda	.01	.01
Quartz sand	23.35	....
Silica combined	41.98	55.11
Total	100.26	100

NOTE.—The iron is not present to any extent in the clay, but in the heavy minerals, which may be easily removed by care in the washing.

A New York company has recently entered into a legal contract with local parties, nominally leasing a kaolin-clay reef 50 miles up the Corentyne River for forty-five years, and agreeing to take 100,000 tons of the article per annum—shipments to New York to commence within thirty days. Not more than 20,000 tons per annum can be mined with the crude methods now employed, but with a suitable plant the output will be increased as required. The Corentyne River is navigable for vessels of 14-foot draft. Opposite the quarry there is 7 fathoms of water.

Sailing vessels, which come to this port with ice and general cargo from the United States and usually clear in ballast, would doubtless be available for the transportation of this product to New York, at about $2.40 per ton.

Communication from Georgetown, the capital of the colony, is by rail to Berbice, thence by stage to the mouth of the Corentyne, and by launches or batteaux to the mining locality.

GEO. H. MOULTON,
Consul.

DEMERARA, *June 8, 1901.*

TEXTILES IN ARGENTINA.

Vice-Consul-General Murphy sends from Frankfort, June 18, 1901, translation of a newspaper clipping relative to the demand for English, French, and German textiles in the Argentine Republic, as follows:

TEXTILES FOR THE ANGENTINE REPUBLIC.

At present, the textile industry of the Argentine Republic is restricted to the production of cheap wares, principally certain specialties of the country, such as ponchos, or shawls, and several kinds of woven stuffs. There are a number of factories with considerable capital, but nevertheless, in spite of a high protective tariff, the domestic textile industry is not able to compete, either in quality or cheapness of products, with the foreign factories which supply the Argentine market. The importation of textile wares of all sorts is consequently still large. France, Great Britain, and Germany are the countries at present chiefly interested in this business. France furnishes principally batiste, fine linen, ticking (coutil lacet) from Rouen, cotton stuffs and so-called linen from Vichy, twills in white cotton, "decati" in white cotton, fine cloths from Elbœuf, woolen and half-woolen flannels, grenadine gauze; silk muslin and silk articles of sorts produced only in France, Italy, and Switzerland; silk serge from Lyons, blue cotton stuffs for laborers' clothing, woolen taffeta, woolens, silk and phantasie wool for babies' clothing, velvet of silk and silk mixed with cotton, and finally two articles which are among the most important ones—cashmere from Rheims and shirt cottons; furthermore, cretonne for beds and furniture, and a stuff known as "merinos." Satin of silk and silk mixed with cotton comes from Lyons. Bengaline, a woolen stuff, is also of French origin.

England furnishes alpaca of wool and cotton; batiste of black, colored, or printed cotton; stiff linen (buckram) and balzorine, bed covers of unbleached yarn, cambric, crape, table covers, cotton cashmere, woolen and half-woolen cloth, flannel of low grade, waterproof stuffs (cotton and caoutchouc), cotton muslin, cotton moire stuffs in colors, nainsooks, oxfords, bramante (a white cotton competitor of French calico), percaline, and "pocketings."

In some articles, England is forced to contend with foreign competition; for instance, cotton shirtings are also produced in France. Black woolen taffeta is likewise exported by France, while France and Germany are both England's competitors in silk and cotton velvets. England also furnishes cotton zephyr, foulardine, printed percale, and white and printed piqué.

Among the articles exported to the Argentine Republic by Germany may be mentioned white or printed double fustian (bombasi), sheets, bed covers, silk and cotton satin, tartan, and other stuffs for laborers' shirts.

Switzerland sends silks, competing with France in this line.

The following remarks in regard to trade customs in the Argentine Republic may be of interest:

For sales to small dealers, the usual terms of payment are either cash or credit for one or five months; for cash, 6 per cent discount is allowed; for one month's credit, 5 per cent; and for each additional month, 1 per cent less.

The wholesale dealer's "cost price" includes (1) the purchase price of the wares; (2) transportation charges to the port of shipment; (3) sea freights; (4) customs duties. To this is added a certain percentage of the value of the wares (some houses charge as much as 20 per cent) for general expenses. The total thus fixed is the "cost price," upon which the wholesale dealer bases his selling price. Wares worth 1,000 piasters and weighing less than 1,000 kilograms (2,200 pounds) pay in addition to the regular customs duty the following charges:

	Piasters.
2 per cent additional duty	20.00
5 per cent extra additional duty	50.00
Warehouse fee	2.50
Landing fee	5.00
Revenue stamps	1.00
Loading certificate	.35
Total	78.85

Or almost 8 per cent of the value. The customs duty is often as much as 35.4 to 50 per cent of the value of the wares. For all wares, certain standards of value are fixed in the customs tariff upon which the amount of duty is estimated.

The following table shows the values and rates of duty fixed for certain textiles:

Description.	Value per kilogram.	Rate of duty.
	*Piasters.**	*Per cent.*
Woolen textiles, not specially mentioned	3.00	35
Silk textiles, not specially mentioned	15.00	40
Cotton textiles, white, not specially mentioned	.90	25
Waterproof stuffs of caoutchouc and cotton	.80	25
Printed cotton stuffs:		
Not specially mentioned	.90	25
Better quality	1.50	25
Woolen and cotton stuffs, mixed in ratio of 40 to 60 and less	1.20	25
Woolen and cotton stuffs (wool from 40 to 85 per cent)	2.00	35
Cotton linings	.60	25
Stuffs less than 85 per cent wool and more than 15 per cent silk	4.00	35

*The value is given in gold piasters (1 gold piaster=96.5 cents).

Dealers wishing to sell to the Argentine Republic should send, either directly or through agents, attractive samples with prices marked thereon. This is not a new suggestion, but manufacturers often do not take sufficient care in preparing their samples.

COMMERCIAL PROGRESS IN PARAGUAY.

The trade of Paraguay with the United States is increasing, and the prospects are that before the expiration of the present year it will have reached an unprecedented volume. For instance, the firm of Angulo y Cia. has devoted considerable space to an exhibition of United States goods, in which, I am informed, it is doing a large and ever-increasing business, especially in agricultural implements. It expects to make many sales of carriages, electrical supplies, bicycles, dry paints, and other articles of United States manufacture.

A contract has been made with a large landowner here for the establishment of a quebracho factory, for the production of extract of quebracho for use in tanneries. Another plant known as "curupay," I am informed, gives even more tannic substance than the quebracho—the yield being as high as 36 per cent—and in my opinion a factory for its utilization would prove an excellent investment. As yet, the scheme has never been tried.

The engineers who have been considering the establishment of waterworks for the city of Asuncion will shortly submit to the authorities the results of their observations, when the Government will call for bids. The works will be quite extensive and will involve the use of considerable quantities of piping and iron material. In addition to the waterworks, the Government will, in the near future, take up the matter of road building and the dredging of the pass at Angostura.

JOHN N. RUFFIN,
Consul.

ASUNCION, *April 27, 1901.*

WHARF AT LA BOCA, COLOMBIA.

The La Boca wharf having now been in practical use for some months, I think it expedient to report on the success of what was for a long time considered an utter failure.

The wharf is situated at the mouth of the Panama end of the Panama Canal, about 2½ miles from Panama City. During its construction, its failure was predicted on account of the great rise and fall of the tide; also because of the difficulty of keeping the channel leading to the wharf open, as a great amount of mud is brought down by the San Juan River. The difficulties have been reduced to a minimum. Vessels are not lashed alongside the wharf, but have floats placed between them and the wharf, so that there are no bad results from the tide. The cranes or winches on the wharf are of a special kind that permits of working the cargo at all stages of the tide. The following measurements will give an idea of the size and capacity of the wharf:

Total length of wharf	feet	985
Total width of wharf	do	54
Depth of channel alongside at high tide	do	45⅝
Depth of channel alongside at low tide	do	26¼
Cranes	number	7
Capacity of vessel space	feet	985
Width of channel alongside	do	98
Railroad tracks on wharf	number	2
Total length of railroad track on wharf	feet	787½
Car capacity of tracks on wharf	cars	39
Tonnage of largest vessel yet docked	tons	4,600

It is possible to dock any vessel drawing less than 26 feet 6 inches; there are six cranes of 2 tons and one of 20 to 24 tons.

In speaking of the channel alongside, it might be well to explain that this is not exactly a channel, but what is called a "souille," or basin, in which the vessels lie and in which there is a maneuvering space, at any stage of the tide, of 486 feet. The bottom of this basin is soft mud, and while it is considered best for the vessels to be at all times afloat, yet they can rest easy in the muddy bottom. From the above, it is seen that any vessel of 500 feet length and not drawing more than 26 feet can be handled at this wharf with facility.

The wharf is constructed entirely of steel and is roofed over and housed in with corrugated iron.

This wharf was built by the Panama Canal Company, but has been turned over to the Panama Railroad Company. The rates charged for vessels coming alongside are governed, for the most part, by contract.

FRANCIS GUDGER,
Vice-Consul-General.

PANAMA, *June 15, 1901.*

COLOMBIAN EXPORT DUES.

I give below a new schedule of export duties, which goes into effect immediately upon publication. The tax is payable in American gold. It will weigh heavily upon cattle exporters, who have appealed for a suspension of the decree. In the event of a refusal, great financial loss will be inflicted upon the live-stock shippers, as they have contracts with dealers in Cuba. Prices in that island are such that the trade here can not stand any export tax at all. The effect upon the export of ivory nuts, divi-divi, rubber, hides, and coffee will also be serious.

Decree No. 495, April 30, 1901.

Article.	Unit.	Export tax.*
Cleaned coffee	100 pounds	$0.40
Unhulled coffee	do	.30
Rubber	do	.60
Cattle hides	do	.40
Other skins	do	.50
Ivory nuts	do	.15
Divi-divi	do	.75
Tobacco:		
Leaves	do	.20
Roll	do	.30
Manufactured	do	.50
Cotton	do	.20
Ginned	do	.25
Cotton seed	do	.10
Bananas	Bunch	.01
Dried birds	Kilogram	1.00
Heron plumes	do	6.00
Orchids	do	.10
Tortoise shell	do	1.00
Balsam	100 pounds	.80
Fustic	do	.04
Brazil	do	.06
Cedar, mahogany, galiavo, and all building woods	1,000 superficial feet	1.60
Cocoanuts	1,000	.50
Cattle	Head	20.00

* Export tax to be paid in gold.

A tax of 3 per cent ad valorem is levied upon all articles intended for export not included in the above schedule.

J. C. INGERSOLL,
Consul.

CARTAGENA, *May 19, 1901.*

FINANCIAL CONDITIONS IN MEXICO.

For some months there was a stringency in the money market of Mexico, caused undoubtedly by the very heavy exportation of Mexican silver coin. Many of the banks felt the effect, and it was difficult to obtain loans from Mexican banks on any sort of security. The situation now appears greatly relieved and the money market here is easier. I am of the opinion that the opening up of the great refinery at Monterey has had much to do with the present condition of affairs. Before the completion of the refinery, all of the silver bullion from the Monterey smelters was shipped to the United States to be refined and but little of it returned; but since the Monterey refinery has been erected, the Mexican mints have renewed their activity and none of the refined silver has been shipped out of this country. The entire product of one of the large smelters here, which formerly sent its bullion to the United States, is now refined in Monterey and turned over to the mint in this country. I also note that refined silver from Omaha is being shipped into Mexico for the use of the mints. For some time, the scarcity of silver caused an increase in the market price of Mexican silver coin. Now that the demand is being better supplied, the price of the coin has declined.

PHILIP C. HANNA,
Consul-General.

MONTEREY, *June 10, 1901.*

WELL-BORING MACHINERY AND WINDMILLS IN YUCATAN.

It is reported that Lic. Pablo Martinez del Rio, of Mexico City, has been granted a concession by the Mexican Government to develop the oil springs in the States of Tamaulipas, San Luis Potosi, and Veracruz. According to the terms of the concession, the work must be commenced within six months, and at least twenty wells shall be drilled during the first year. The capital of the company is $600,000 Mexican currency. I would suggest as the best method of securing orders for the machinery required for this enterprise that our manufacturers at once send an agent to Mexico City to see Mr. Martinez and furnish him with drawings, estimates, and all particulars as to prices, etc.

I have also been investigating the need of well-boring machinery in the State of Yucatan. Probably owing to its geographical position, this State has been generally overlooked by manufacturers, and as a result one of the best fields in this line in the Republic of Mexico is almost wholly undeveloped. I have talked with several persons who have traveled over Yucatan, and I am informed that there is not a well-boring machine in the State, with the exception of a large deep-boring outfit at Merida, the capital. The entire water supply comes from shallow wells, generally from 25 to 100 feet deep, but limestone has to be blasted out from the very surface. It is my belief that if our manufacturers of light well-boring machinery, which can be run by horsepower—such as is used extensively in the United States—would send a practical man to Merida, set up a machine there, and bore a few wells, a large number of orders could be secured.

Yucatan is also an ideal country for windmills; the entire peninsula is flat, a steady breeze blows most of the time, and a windmill would never have to contend with storms, such as occur in many parts of the United States. All the water here comes from the ground, and, as the high price of fuel precludes the use of steam pumps, recourse must be had to windmills, or, as at present, to horsepower.

WM. W. CANADA,
Consul.

VERACRUZ, *May 14, 1901.*

TRADE-MARKS IN SALVADOR.

Consul Jenkins sends from San Salvador, May 8, 1901, copy and translation of a law, dated April 22, 1901, relating to trade-marks. The provisions of the law* are summarized below:

Any sign which distinguishes the products of a manufactory, or the objects used in a certain line of business, shall be considered as a trade or business mark.

The form, color, lettering, or design that does not in itself constitute the special distinguishing mark of the product shall not be considered as a trade-mark. In no case may such a sign be of an immoral nature.

Any owner of a trade-mark, whether a native of the country or a foreigner residing here, may acquire the exclusive right to use the same in the Republic.

Foreigners residing in another country may register their trade-marks here, having an establishment or agency for the sale of their products.

In order to obtain a trade-mark, the interested party shall present himself, or send his representative, to the Mercantile Tribunal, with a written statement to the effect that he reserves all rights to such mark, together with a power of attorney (if the representative appears); two samples of the mark, with explanations; and the commission by which the agency has been established.

In the application must be expressed the name and location of the factory, the residence of the owner, and the kind of industry in which the mark will be used.

An industrial mark belonging to a foreigner who does not reside in this Republic can not be registered here until after registration in the country of origin.

The first person who makes legal use of a mark is entitled to acquire the possession of the same. In case of dispute between two persons who claim the same mark, it shall be adjudged to belong to the first possessor, or, if this can not be proven, to the first claimant.

The Mercantile Tribunal shall cause the application to be published three times in the official organ, and if, after ninety days have elapsed, no objections have been made, it will order the registration of the mark, certifying that applicant has paid $3 registry fee. In case of opposition, the parties will be heard by the common courts.

The duration of the possession of trade-marks is indefinite, but a trade-mark shall be considered abandoned when the establishment or business using the same shall have been closed for more than one year.

Copies of trade-marks may be obtained from the archives of the Mercantile Tribunal.

---

*Copy of the full text has been sent to the United States Commissioner of Patents.

GAS AND OIL DISCOVERIES NEAR OTTAWA.

For several years, there has been discussion of work done in the vicinity of Ottawa in the discovery of oil and gas. As the locality is only 55 miles from the New York State line, I give below a description of the investigations that are going on, with a brief history of the borings, etc., that have taken place in this neighborhood.

Some thirteen years ago, Ottawa was startled somewhat by the supposed discovery of petroleum at Ramsay's Corner, 10 miles from this city. Mr. John Cunningham brought a bottle of tarry matter with a strong odor of petroleum, which he claimed to have found on his father's farm. A sample was sent to an assay office in New York and the report came that it was petroleum, a fine specimen of condensed grade.

A company was formed, which bored to the depth of 1,005 feet. Neither gas nor oil was found; sulphurous water was struck, however, at 320 feet, and salt water at 550 feet. This disheartened for the time seekers for oil and gas about Ottawa. Two years ago, Senator Poirier, of New Brunswick, undertook to make a thorough study of the geological and stratigraphical conditions of the Ottawa Valley, aided by one of the leading geologists in America.

The counties of Carleton, Russell, and Prescott were thoroughly investigated. No less than one hundred and fifty bore holes down to the rock (but not into the bed rock), at depths varying from 25 to 204 feet, were made by an artesian-well bore through the overlying clay (mostly blue clay), and a reliable map was drawn. The bore hole of 1889, in the suburbs of Ottawa, was examined, and it was found that it had been sunk where the Trenton limestone crops out uncovered at the surface, a condition fatal to the finding of petroleum oil and natural gas.

At Cunningham's farm, the Trenton limestone is covered by the Utica shale and the Hudson River shale, and by 204 feet of overlying blue clay, remarkably soft. The elevation of the surface is about 260 feet above sea level.

Senator Poirier started boring this last winter with a diamond drill owned by the Ontario government. No boring had ever been made through the belt of the Hudson and Utica formations around Ottawa, and from surface exposures the geological bureau of Canada had come to the conclusion that the maximum thickness of the combined Hudson River and Utica strata would not exceed 300 feet. The Ontario diamond drill had a capacity of 469 feet. At that depth the drill, on close examination of the fossils found in the cove, had not traversed the Hudson formation. At about 445 feet from the surface, a column of water and gas about 30 feet high spurted out, but lasted only twenty-four hours. The water, I am informed, showed positive evidence of oil, being covered with an oily cream.

Deducting from 469 feet the 204 feet of overlying clay, the drill at Cunningham's farm had only penetrated the rock 265 feet. It was thought advisable to drill from a point where the rock outcropped at the surface. Such a point was shown to exist some 3 miles away. At this spot, the stratum was found to be horizontal and altogether undisturbed.

At 450 feet a strong pressure of gas was met—200 pounds to the square inch, according to the official report. The drill could only reach a few feet lower, and the boring had to be abandoned. At that depth the drill had, upon examination of the fossils, barely reached the Utica shale.

The drill hole, which is 1¼ inches in diameter, has been left unplugged and has continued ever since to give out gas—rock gas, without doubt. The water that comes out is coated with greasy matter, with spots resembling oil.

Encouraged by these results, Senator Poirier and his associates secured a pumping drill of 2,000 feet capacity and started boring a new hole on Cunningham's farm, some 30 feet from the first one. On the 31st of May last, the drill had reached 540 feet from the surface; that is, 336 feet in the bed rock. The driller had met with no phenomenon, except a stronger jet of water and gas at about 490 feet, which, however, did not last. There are appearances of a tarry substance on the water.

Oil is expected to be struck at about 900 feet from the surface—that is, at 700 feet below the rock, at the contact of the Trenton limestone with the Utica shale. In Ohio and Indiana, it has been found at that horizon. What is required now is a thorough equipment of drills to properly test this basin.

CHARLES E. TURNER,
Consul-General.

OTTAWA, *June 3, 1901.*

NOTES.

Demand for Men's Furnishings in Turkey.—Consul Norton writes from Harput, May 14, 1901:

There is a growing demand at Mezreh and Harput for boots, shoes, and men's furnishings, such as shirts, collars, cuffs, neckties, suspenders, underwear, etc. The leading local retail firm engaged in this business is desirous of receiving price lists, catalogues, and samples from wholesale houses in the United States. The catalogues, etc., may be addressed to this consulate. The money for all orders forwarded may be deposited at this consulate until invoices shall be received. The temporary presence here of some hundreds of former residents of the United States, who have brought their taste for wares of American make, as well as the gifts sent back to their families by emigrants from this vilayet, all contribute to cultivate a marked demand for such goods. Comparison with similar wares of European origin in the bazaars of Harput has abundantly demonstrated the superior quality of American articles. There is no apparent demand for female wearing apparel. The fact that but few women have emigrated from this region to the United States is the possible explanation.

Chinese Settlement in Borneo.—Consul Gracey reports from Fuchau, May 24, 1901, that a wealthy Chinaman of that port has inaugurated a movement to settle a Christian community at Sibu, Sarawak. Already, some 500 persons—men, women and children—have arrived at the island. There is a grant of a fertile tract of territory sufficient to accomodate many thousands of persons. By agreement with the government, they have very liberal control of their own people in the settlement of civil cases. The growth of the poppy and the introduction of opium are to be prohibited; intoxicating liquors, lotteries, and gambling also being excluded. The government requires them to cultivate the rice fields according to the customs of the Chinese in southern China, the design being to introduce rice culture on a large scale as a commercial enterprise. Thousands of acres of what is believed to be suitable land for rice culture are available, and the government is making strenuous effort to induce Chinese immigration in large numbers.

Quinine Auction Sale at Batavia.—Consul Rairden, of Batavia, May 22, 1901, reports that the eleventh auction of quinine was held in that city May 15, 1901, and the following were the prices realized:

Editio II, consisting of 260 cases, containing 2,953.68 kilograms (6,043.30 pounds): Two cases, each containing 11.34 kilograms (25 pounds) of quinine, were sold at 24.05 florins ($9.67) per kilogram (2.2046 pounds); 8 cases, each containing 11.34 kilograms (25 pounds) of quinine, were sold at 24 florins ($9.65) per kilogram; 18 cases, each containing 11.34 kilograms (25 pounds) of quinine, were sold at 23.95 florins ($9.63) per kilogram; 26 cases, each containing 11.34 kilograms (25 pounds) of quinine, were sold at 23.90 florins ($9.61) per kilogram; 2 cases, each containing 12 kilograms (26.4 pounds) of quinine, were sold at 24 florins ($9.65) per kilogram; 150 cases, each containing 11.34 kilograms (25 pounds) of quinine, were sold at 23.85 florins ($9.59) per kilogram; 2 cases, each containing 12 kilograms (26.4 pounds) of quinine, were sold at 23.85 florins ($9.59) per kilogram; 48 cases, each containing 11.34 kilograms (25 pounds) of quinine, were sold at 23.80 florins ($9.57) per kilogram; 4 cases, each containing 12 kilograms (26.4 pounds) of quinine, were sold at 23.80 florins ($9.57) per kilogram. The average price realized—23.86 florins ($9.69) per kilogram (2.2046 pounds)—was equal to the unit price of 0.0968 florin (3.89 cents) for the bark at Amsterdam.

The next sale is advertised for the 19th of June.

Loss of United States Trade in Cape Colony.—Consul-General Stowe sends the following from Cape Town, May 28, 1901:

The plague now prevailing in this colony, together with the war (which compels vessels from United States ports to lie in the bay for days at a time before dockage facilities can be obtained), has caused orders for certain goods always obtained in the United States to be sent to England. Street-railway supplies, for instance, are ordered there at an excess of freight and cost. Provisions and all other lines needed promptly are now shipped from England. The mail boats sailing from Southampton are allowed to enter the docks on arrival to discharge passengers, and, consequently, are allowed to discharge their freight. This prompt delivery of goods, sixteen to twenty days out from Southampton, is the cause of change of orders. Even if ships could enter the docks on arrival, the discharge would be very slow, on account of the lack of labor, the Kaffirs having become frightened because of the plague.

Under date of June 5, Mr. Stowe says that all plague restrictions at the docks have been removed, and captains of United States vessels may now do business in the city. This new order will hasten business at the docks, which has been stationary for some time. The plague is on the wane, but few cases now being reported.

Shoes in South Africa.—Under date of May 20, 1901, Consul-General Stowe, of Cape Town, advises United States manufacturers of boots and shoes to export to South Africa American styles only, and not to attempt to duplicate the English product. English shoes are of good material and are well made, but style and symmetry are lacking. A merchant who has lately sold a large number of sample boots and shoes from the United States says that the American styles sold rapidly, while the copies of the English makes are to be put up at auction. The American shoe is longer than the foot, which is an advantage.

The consul-general adds that the satisfactory imports of leather, mentioned in one of his recent reports,* have practically ceased, owing to the demands of the home (American) market, and expresses regret that the trade in this article with South Africa should have been allowed to lapse.

Trade Openings in the Transvaal.—Under date of June 12, 1901, Consul-General Guenther reports from Frankfort:

The Belgian consul at Johannesburg says that there will soon be openings for the sale of the following goods in the Transvaal: Axles of steel and iron for locomotives, railroad cars, and other vehicles; wagon springs and oil and grease boxes; all the various materials for narrow-gauge railroads; implements for agriculture and forestry; also rolling cars for mines, drawbridges, etc.; hoists and hoisting machinery for mines, pumps, ventilators, and other mine appliances; cutlery of all kinds.

Direct Trade of Rouen with Morocco.—Under date of June 5, 1901, Consul Haynes, of Rouen, reports as follows:

Heretofore, the commercial exchange of this port with Morocco has been conducted by way of Marseilles. Recently, however, a French steamship company has created an agency at Tangier, where its ships, which also frequent Rouen, will stop. This will give increased facility to this port, permitting the exportation from Rouen and Paris of such articles as cloth, sugar, flour, Parisian articles, etc.; the ships being able to return with cargoes of wool, hides and skins, chick-pease, canary grass, almonds, olive oil, maize, beans, horn, hair, bone, medicinal herbs, wax, perfumes, etc.

---

*See Advance Sheets No. 1058 (June 10, 1901).

Germany's Share in the Suez Canal Traffic.—Under date of June 5, 1901, Consul Monaghan, of Chemnitz, writes:

The following figures, taken from a German paper, show that Germany's share in the traffic of the Suez Canal has increased considerably at the cost of England. England's share is still large, but is growing smaller from year to year, and during the last ten years has fallen off 15 per cent. Since 1896, England's trade has dropped off about 227 vessels, of 286,359 registered tons, while Germany's has increased 140 vessels, of 926,650 tons. In 1896, England had 66.9 per cent of the total trade, and in 1900 only 56.7 per cent. Germany's share, on the other hand, increased from 9.3 per cent to 15 per cent. For a number of years, the largest ships using the canal have sailed under the German flag; further, Germany has, on the average, larger ships than England, for while the average size of the German vessels is 4,431 registered tons, the average size of British vessels is only 4,016 tons. Twenty years ago, only 15 German vessels passed the canal, and now the number has reached 462.

Cultivation of Silkworms in Germany.—Consular Agent Harris, of Eibenstock, June 15, 1901, says that there are several stations in Germany where attempts are being made to raise the silkworm. For many years, continues Mr. Harris, these experiments have not been attended with much success, owing to the severity of the climate. The question of climate, however, is not so applicable to the worm as to the mulberry leaf, and attempts are being made to discover a successful substitute for this plant. In Sprockhovel, near Barmen, experiments are being made in feeding the worms various kinds of leaves and plants, and, according to reports, the results are quite satisfactory. Thirty-two kinds of plants have already been tested, from 400 to 500 worms subsisting upon each; and in Crefeld, during 1900, 120,000 worms were fed with black hellebore, with the result that a silk fiber was attained, which, however, was greatly inferior in strength and durability to that produced by worms fed upon mulberry leaves.

Glass Blowing by Compressed Air in Germany.—Consul Hughes, of Coburg, June 12, 1901, says that a new method of blowing glass by means of compressed air, by which glass vessels of an unusually large size can be produced, has been discovered by Paul Sievert, of Dresden. The process is described as follows:

The liquid glass metal is poured upon a cast-iron plate, and runs as far as the overreaching edge of the plate, where it hardens. The still refractory glass metal frees itself from the plate—the hardened edge remaining fast—and forms an elongated sack, the bottom of which rests upon a table. By means of a hollow cylinder and a plate pierced with holes, compressed air is conveyed to the sack, which, the table being lowered, is blown to the required size. The upper glass edge is then freed by the removal of the overreaching edge of the plate and the table continues to sink. The finished vessel is then allowed to cool. Previous to this time, the consul adds, concave glass could be blown to a size of only 1 hectoliter (26.417 gallons), but with the above method bath tubs and large glass kettles can be made.

Preservation of Eggs in Germany.—Consul-General Guenther, of Frankfort, June 4, 1901, sends the following extracts from an article on the results of experiments in preserving eggs, which appeared in a recent issue of a technical journal.

> Four hundred fresh hen eggs were subjected to the action of different substances for a period of eight months. At the expiration of that time, it was found that the eggs which had been put into salt brine were all spoiled; that those which had been wrapped in paper were 80 per cent bad; and that a like percentage of those which had been immersed in a mixture of glycerin and salicylic acid were unfit for use. Of the eggs which had been rubbed with salt, or imbedded in bran, or coated with paraffin, 70 per cent were spoiled; of those subjected to a coat of liquid glass, collodion, or varnish, 40 per cent; and of those which had been placed in wood ashes or had been painted with a mixture of liquid glass and boracic acid, or a solution of permanganate of potash, only 20 per cent were bad. Almost all the eggs that had been coated with vaseline, or had been placed in limewater, or in a solution of liquid glass, were in good condition.

Coke Briquettes in Germany.—Consul Warner, of Leipzig, June 17, 1901, says that a new process has been patented by which coke can be reduced to particles about 1 millimeter in size, stirred to a paste in a concentrated solution of resinic acid, and then run into briquette molds. The briquettes are said to dry much more quickly if manganese is added to the above-mentioned adhesive solution. The consul adds that coke has long been used by German steamboat companies, factories, gas plants, and railroads, and it is expected that this new coke briquette will be consumed in much greater quantities by all of these different industries.

New German Fuel.—Under date of June 20, 1901, Consul Hughes, of Coburg, says:

The Imperial German navy and some German manufacturers are using large quantities of "masut" (an oily product of German brown coal tar) for heating and steam-producing purposes. The advantages over coal are stated as follows: (1) The heat-producing qualities of "masut" are said to be one-fourth greater than those of coal; (2) the oil is easier to handle, it being only necessary to open a valve; (3) very little smoke comes from the use of the "masut;" (4) steam can be produced and full power reached in less time. The coast-defense vessels of the German navy are fitted for the use of this oil. Some of the battle ships and cruisers are also so arranged that they can use both coal and "masut."

Germany's Export to the Seats of War.—Consul Kehl sends from Stettin, May 15, 1901, a table showing the effect of the wars in South Africa, the Philippines, and China on the German export trade for the past few years, as follows:

Country.	1900.	1899.	1898.	1897.
Transvaal	$380,800	$2,713,200	$2,165,800	$2,879,800
Cape Town	2,975,000	2,689,400	3,464,328	....
Philippines	1,499,400	642,600	595,000	666,400
China	12,590,200	12,042,800	11,426,380	....

German Commercial Association in Japan.—Consul-General Guenther, of Frankfort, June 4, 1901, says:

A report from the German consul-general at Yokohama states that the German merchants of Yokohama and Tokyo have formed an association for the purpose of promoting German commercial interests in Japan. The association will also act in conjunction with similar German bodies in eastern Asia and keep in touch with the East Asiatic Association of Hamburg. This new association has taken steps for the publication of a weekly newspaper in German. The German firms in Japan have guaranteed an annual amount of 6,000 yen ($3,008) for a period of three years.

Growth of Shimonoseki, Japan.—Consul-General Bellows writes from Yokohama, May 28, 1901:

In view of the increasing commercial importance of the ports of Moji and Bakan, situated on opposite sides of the western entrance of the inland Sea of Japan at Shimonoseki, I forward a clipping from to-day's Japan Gazette relative to the opening of a British consulate at the latter place. The statistics given have been corrected and values reduced to United States currency.

The clipping reads, in part:

The decision arrived at by the British Government to establish a first-class consulate at Shimonoseki—otherwise Bakan, as it is commonly called—seems to have given rise to an agitation on the part of the residents at Moji, at the other side of the Strait. Their efforts, however, seem to have been of no avail, for the superior importance of Bakan as a trade port in comparison with Moji is recognized. Arrangements have been made to open the new consulate in September next. At present, there are in Bakan sixteen British banks, companies, and agencies, while Moji possesses only three. Moreover, the trade at the latter is almost limited to coal, while Bakan promises to become important as a terminus of the Sanyo Railway. In this connection, the trade returns for last year of both ports may be of interest:

Port.	Imports.	Exports.	Total.
Bakan	$2,474,692	$3,272,866	$5,747,558
Moji	1,719,074	2,829,362	4,548,436
Total	4,193,766	6,102,228	10,295,994

Association for Promoting Commercial Instruction.—Under date of June 6, 1901, the Department has received from the International Association for the Advancement of Commercial Instruction (Leonhardstr. 21, Brunswick) the programme and the order of exercises of the constituent meeting at Zurich on July 11–13 of this year. The United States is requested to send as representatives members of institutions of commercial instruction. Persons interested in the matters of trade and commercial education are invited to become members of the association. The utility of an international association of this nature will be discussed at the inaugural meeting, to be held at Zurich. The universal nature of trade, it is stated, makes it possible for the question of commercial education to be internationally treated in an advantageous manner, as the bases of trade and mercantile requisites are essentially the same in all countries. It is desirable to have an annual statistical review, published in several languages, as well as a central office, to collect the educational plans of various countries and to give information to those interested.

Exposition in Japan.—The following is extracted from a letter to a resident of New York, by Consul Lyon, of Hiogo, dated June 5, 1901:

The proposed exposition in Japan will be held at Osaka from March 1 to July 31, 1903. The articles to be exhibited include agricultural, horticultural, forestry, and water products; mining, industrial, and mechanical exhibits; and those pertaining to education, science, sanitation, economy, and the fine arts. The articles shall be those collected, produced, or manufactured by the subjects of the Empire, or by foreigners residing in Japan. The cost of the exposition is to be paid by the imperial treasury, except the expenses of exhibiting, which will be borne by the exhibitors.

Exposition for Life-Saving Service in Frankfort.—Consul-General Guenther reports from Frankfort, June 17, 1901:

An exposition for accident, sanitary, and life-saving service is to be held at Frankfort October 5 to 21. The exposition is to be exclusively scientific. Visits of workingmen will be arranged, as the chief aim will be to benefit those engaged in industrial pursuits.

Exhibition at Dessau, Germany.—Consul Warner reports from Leipzig, June 6, 1901:

A general industrial and agricultural exhibition will be held at Dessau, Anhalt, from the 28th of September to the 7th of October, 1901. Detailed information may be obtained by writing to "Das Austellungs Bureau, Hotel Kaiserhof, Dessau."

British Exposition in St. Petersburg.—Deputy Consul-General Hanauer reports from Frankfort, June 1, 1901:

There is planned for next winter an exposition of British products at St. Petersburg. Committees of prominent men have been formed both in London and St. Petersburg to have charge of the matter. According to the German paper containing this news item, the Russian Ministry of Finance has granted exhibits free entry at the custom-houses.

Exposition of Decorative Art at Turin.—The Department has received a note from the Italian embassy, dated Washington, July 9, 1901, inclosing a letter from the mayor of Turin to the President of the United States, expressing the hope that artists and manufacturers of the United States will take part in the international exposition of modern decorative art, to be held in Turin in 1902, under the patronage of the King of Italy. A notice of this exposition, with summary of programme and regulations, appeared in ADVANCE SHEETS No. 1050, May 31, 1901.

Sulphur for Plant Diseases in Italy.—The following, bearing date of Frankfort, June 14, 1901, has been received from Consul-General Guenther:

German newspapers report that the agricultural societies of Italy will pay a prize of 1,000 lire ($193) for a reliable method of ascertaining the quality of sulphur and of mixtures of sulphur and sulphate of copper. It is pointed out that the use of sulphur against diseases of plants has increased very largely, but that very frequently the quality of the sulphur, as well as that of its mixtures with sulphate of copper, is very inferior. The prize essays must be transmitted up to March 1, 1902, to the main office of the Federazione Italiana dei Consorzi Agrari, at Piacenza. The award will be made by a special committee. Competition is entirely international.

New Railroads in Prussia and Saxony.—Consul Warner, of Leipzig, June 18, 1901, informs the Department that a commission of experts has just examined and accepted for the Prussian Government the newly constructed railroad between Blankenstein and Marxgrün, a distance of about 7 miles. This line, the consul adds, will afford a direct connection between Hof and Triptis, by way of Ziegenrück, and Probstzella and Leipzig, as well as improve the facilities for marketing goods produced in this district—southeastern Thuringia. The road is in a district celebrated for its beautiful scenery and visited annually by large numbers of tourists.

Mr. Warner also says that the Saxon government has established a regular train service on its newly constructed railroad connecting Altenburg, Langenleuba, Oberhain, and Narsdorf. This line, although of standard gauge, is single track. It is about 20 miles in length, and has been built more for freight traffic than for passenger service, in order to develop the coal properties along the route and to encourage the growth of manufactures in a section which has heretofore been almost exclusively agricultural.

Rapid Mail Train in France.—Consul Haynes writes from Rouen, June 3, 1901:

The Paris-Lyons-Mediterranean Railway Company, by an agreement with the postal authorities, has established for the first time in France a rapid mail train, exclusively for the purpose of carrying letters, papers, and other objects of correspondence. It was put on the road June 2, 1901, and will leave at Dijon, Macon, Lyons, and Tarascon, the cars intended for Switzerland, Italy, and the middle of France. The cars containing the colonial correspondence or mail for the Orient will be stopped at Marseilles, to facilitate its transportation on board ship. The rest of the train will continue to Nice.

Railroad in Dahomey.—Consul Skinner reports from Marseilles, June 24, 1901:

Formal announcement is made at Marseilles of the formation, on May 22, of a corporation having for its object the exploitation of a railroad in Dahomey. The society is organized for a period of seventy-five years, its official title being "La Compagnie Française du Chemin de Fer du Dahomey," with general headquarters at 5 rue D'Antin, Paris, and headquarters for actual management at Marseilles. The capital of the company is fixed at 8,000,000 francs ($1,544,000).

The Trans-Baikal Railroad.—Consul-General Holloway reports from St. Petersburg, June 22, 1901:

The Trans-Baikal Railroad, which is a continuation of the trans-Siberian route, is completed, and trains are now running between Moscow and Stretensk, on the Amur River. The "train de luxe," which is equal in comfort to an American vestibule train, leaves Moscow every Wednesday at 8.35 p. m., reaches Irkutsk at 6.30 p. m. on Thursday of the following week, and leaves there the next morning for Lake Baikal, which passengers cross in the steamer *Angara* in nine hours, reaching the Mysovaia station, on the opposite shore of Lake Baikal, at 6.30 p. m., and arriving at Stretensk at 10.37 on Monday, eleven days from Moscow. The first-class fare is 112.90 rubles ($58.14). The route from Stretensk to Khabarovsk is via the Amur River and requires a week, the fare being 42.32 rubles ($21.79). From Khabarovsk the passengers take the Ussurian Railroad to Vladivostock, which requires thirty-two hours and costs 16.50 rubles ($8.49). This reduces the time between Moscow and Vladivostock to nineteen days.

The steamships of the volunteer fleet require six weeks to go from Odessa to Vladivostock, and the passage costs 500 rubles ($257.50).

Testing Agricultural Implements in Russia.—Deputy Consul-General Hanauer, of Frankfort, under date of June 13, 1901, quotes from the German press that the Imperial Russian Agricultural Association has established, on its model farm near Moscow, a depot for testing agricultural machinery and implements, in order to learn which are the most suitable for Russian farm use. Manufacturers who wish to enter their machines for these tests are required to pay from 500 to 1,000 rubles ($257.50 to $515). This fee entitles them to enter all their machines for a period of three years, and, in addition, to a space of 375 to 750 square feet in the exhibition building at the farm. The results of the tests will be made public, and the cost of printing and other outlays will be defrayed by the association, which will also bear the expenses incurred in taking care of the machines and their insurance against fire. Applications for entry should be addressed to Prince Alexander Scherbatoff, president of the society, Moscow.

Wheat Crop of Russia.—Consul-General Holloway, of St. Petersburg, under date of June 19, 1901, transmits the following extracts from the Gazette of Trade and Industry, regarding Russia's wheat crop:

There are good reasons to hope that the wheat harvest of 1901 will be better than that of 1900. The spring has been favorable. The heavy rains during May, which were general in all parts of the Empire, are believed to have been sufficient to secure a regular growth of the crop. As a whole, the spring wheat is more promising than the winter crop, which has suffered heavily in some provinces from the absence of snow during the winter; in others, from drought, while the greater part in the Vistula region was killed by frost. The loss, however, in the winter crop will be balanced by the amount of spring wheat sown.

Decline in Price of Russian Petroleum.—The following, dated June 18, 1901, has been received from Consul Mahin, of Reichenberg:

The price of petroleum, which last year materially advanced, is now steadily declining in this part of the world. In the Russian oil district, the decline is remarkable, amounting to fully 50 per cent at Baku since January. This is due to increased production (amounting to about 25 per cent in comparison with the early months of 1900) and to the large accumulation of reserve stock. The reserve at Baku is now said to be about 200,000,000 poods (about 7,222,000,000 pounds). In Russian petroleum circles, the blame for this vast accumulation is laid to the inadequate transportation facilities of the Trans-Caucasian Railway.

The declining quotations from New York are construed as indicating that the weakness of the Russian petroleum market is having a far-reaching influence.

Moscow Trade with the United States.—Deputy Consul-General Hanauer writes from Frankfort, June 22, 1901:

According to correspondence from Russia, published in German papers, Moscow wholesale firms, which have imported agricultural machines and implements from the United States, have inquired of the American consul at Moscow why the importation of these articles has almost entirely ceased. The consul replied that the enhanced Russian duty was the cause. The Moscow district annually exports goods to the value of 8,000,000 rubles ($4,120,000) to the United States, mainly consisting of wool, hides, pelts, and some manufactured articles. The Moscow merchants fear that, in consequence of the tariff differences existing between the two Governments, the exports from the Moscow district will be greatly reduced this year.

Export of Russian Crabs.—Consul Hughes writes from Coburg, under date of June 20, 1901:

A small fresh-water crab, very much like a diminutive lobster, is largely imported into Germany and Austria from Russia. During the years 1896–1900, 75,000 cwts. were imported by Germany alone. Austrian imports amount to some 6,600 cwts. a year. Without very much trouble this industry might, I think, be introduced into the United States.

Cotton in Turkestan.—Consul Hughes, of Coburg, under date of June 4, 1901, quotes from German reports that the increase in the production of cotton in Russian middle Asia, Bokhara, and Khiva in 1900 shows a notable increase over the preceding year, which is chiefly attributed to the use of first-class American seed. Most of the former cornfields are being planted with cotton, so that a total of 7,780,000 cwts. can now be raised. The general increase of cotton planting in Asiatic lands was 44.5 per cent over the product of 1899, the increase in the Russian districts being 28.5 per cent.

Food and Drink Supply of Paris.—Consul Haynes, of Rouen, writes as follows, under date of June 3, 1901:

The annual report concerning the food supply of Paris for 1900 contains some interesting figures. Here is the official average of what a Parisian eats and drinks in one year: Two hundred and forty-two eggs, 19.62 pounds of butter, 3.05 pounds of ready-cooked butcher's meat, 34.92 pounds of fish, 154.70 pounds of beef, 25.38 pounds of pork, and 27.83 pounds of fowl and game. This gives a daily average of two-thirds of an egg, 380 grains of butter, 57.12 grains of ready-cooked butcher's meat, 669 grains of fish, 6.81 ounces of beef, 1.11 ounces of pork, and 1.21 ounces of fowl and game. The Parisian drinks in a year 1.89 gallons of alcohol, 3.07 gallons of beer, 1.48 gallons of cider, and 44.9 gallons of wine. This gives a daily average of 0.0387 pint of alcohol, 0.067 pint of beer, 0.0334 pint of cider, and 0.99 pint of wine.

Dealings in Grain Futures in Austria.—Under date of June 17, 1901, Consul Warner, of Leipzig, says that the Austrian council of agriculture has unanimously declared itself in favor of prohibiting transactions in grain for future delivery. This action was taken as a result of a report submitted to the council setting forth that suits can not be brought to recover losses sustained in transactions for the future delivery of grain. The council has petitioned the Government to use its influence to suppress this practice, not only in Austria, but in Hungary as well.

Builders' Association in Austria.—The following has been received from Consul Hughes, of Coburg:

The master builders of Austria have determined to petition the Government to allow the establishment of a national master builders' chamber (to a certain extent after the pattern of the chambers of commerce). The objects are to unite the master builders of the Empire; to guard their interests legislatively and otherwise; to give information to the Government as to building, labor, etc.; and to see that the building regulations are observed. The Government, it is reported, will do everything in its power to promote the undertaking.

Strike in Belgian Glass Works.—Consul Roosevelt reports from Brussels, May 22, 1901, that the strike in the Belgian glass works* was ended May 21. The strikers resumed work under conditions imposed by the owners of the establishments. The strike lasted ten months, and the salaries lost are estimated at 10,000,000 francs ($1,930,000).

---

*See Advance Sheets No. 810 (August 17, 1900); Consular Reports No. 241 (October, 1900).

Market for Banana Meal in Europe.—Consul Hughes, of Coburg, under date of June 4, 1901, writes as follows:

Dried banana meal finds a ready sale in Europe, owing to its great nutritive power. So far as I can learn, Jamaica merchants are the only exporters of this article to Europe, but it seems to me our Southern States should pay some attention to the industry, which promises before long to be a large and paying one. As an addition to milk, soups, meat stews, etc., banana meal is very palatable, imparting a delicate, pleasant flavor. Great care should be taken in drying the ripe fruit to prevent any decayed parts getting into the meal.

Ventilators and Automobiles in British India.—Under date of May 29, 1901, Consul-General Guenther, of Frankfort, says that according to French official reports, the demand for electric ventilators in British India exceeds the supply. American ventilators are being introduced, but it is stated that the people of British India prefer ventilators with blades of from 4½ to 6 inches, while those of American make are only about 3 inches. American manufacturers, adds Mr. Guenther, would do well to verify this statement and govern themselves according to actual demands.

The establishment of a depot for automobiles in Bombay is also spoken of as of great promise for business.

Sale Agents in England.—Consul Marshal Halstead writes from Birmingham, June 10, 1901:

Many American merchants and manufacturers are so confident they can do business in this country as they do in the United States, through sale agents, that they are unwilling to accept unsupported consular testimony that this is not generally a feasible proposition. I therefore requested a business man here, well informed on the subject of commercial matters, who has also had experience in recent years in American trade in this country, to write me a brief statement on the subject which I could use, and he says:

> Answering your inquiry respecting the question of sale agents, I have found—and I think the experience is general—that it is impossible to obtain decent representation in this country through sale agents, because in many districts—important districts, too—there are no men of the kind; and in those districts where applications are most prolific, 99 per cent of the men in the business are failures, and

they are trying their hand at the agency business as a last resource. My experience is quite recent, because for the past year I have been endeavoring to obtain suitable sale agents for an American production of exceptional merit, for which a splendid rate of commission was offered, and out of many hundred replies to my advertisements in trade papers I have up to the present time, after investigating each reply, found only two good men.

Preserving Fresh Fruit in Victoria.—The following, dated Frankfort, June 5, 1901, has been received from Consul-General Guenther:

The German consul-general at Sydney reports that the agricultural department of Victoria has recently made experiments with reference to the preservation of fresh fruits. Pears and peaches packed in the ordinary boxes for shipment were subjected to the vapors of hydrocyanic gas. The fruits were then taken out of the boxes and separately wrapped in tissue paper. Some of them were again treated with the gas, and the whole lot was placed in a dry room at a temperature of 40° F. and kept there for seven weeks. When the fruits were taken out, they were in an excellent state of preservation, especially those that had been treated with the gas a second time. Not only the pears, but the peaches, felt hard to the touch, retained their fresh appearance, and showed no decayed spots, as the germs had all been killed by the gas.

Victorian Gold Jubilee.—Under date of May 28, 1901, Consul-General Guenther, of Frankfort, reports:

The government of Victoria intends to hold a national and international exposition in the district of Bendigo, to commemorate the discovery of the gold fields in 1851. All branches of the arts and sciences, the industries, inventions, etc., will be represented.

Communication with Iceland.—Consul Hughes, of Coburg, under date of June 3, 1901, sends the following information, obtained from German sources:

The mail boat of the United Steamship Company, of Copenhagen, makes eighteen trips a year from Copenhagen via Leith and Färder Island to Iceland, while another firm has arranged for a new service via different Norwegian ports and Färder Island. Two other firms have small boats which make regular trips between Norway, Scotland, Färder Island, and the eastern ports of Iceland. A Newcastle firm also sends during the summer one boat between Iceland and the different Norwegian ports. This development is especially noticeable, when one looks back on the deficient shipping facilities which have existed during past years.

A Peat-Machine Swindle.—Under date of May 31, 1901, Consul Hughes, of Coburg, reports as follows:

I desire to call attention to a swindle, which is being advertised extensively, viz, a machine for turning common peat into a so-called artificial coal at the rate of $1.10 to $1.20 per ton. The company is said to be located somewhere in East Prussia, and claims that its process will make a fuel that will take rank between a good English coal and anthracite. It is said the managers are going to organize a company in the United States, so it would be well for American investors to be cautious till the real worth of the process has been proved. I am informed that it is valueless.

Canadian Discovery for Preserving Wood.—Commercial Agent Johnson, of Stanbridge, under date of June 25, 1901, reports a discovery for the preservation of wood. The sap is removed from timber, and at the same time it is impregnated with chemicals, to render the wood either fireproof or impervious to attacks of insects or to decay in salt or other waters. Beech wood can be made suitable for railway sleepers or for boot and shoe lasts. If necessary, the impregnating plant can be used at the felling ground. The cost of impregnating is about 2 cents per cubic foot; cost of plant, about $1,000.

Canal Improvements and Water Power in Ontario.—Under date of June 17, 1901, Commercial Agent Hamilton writes from Morrisburg:

The work of straightening the canal at this point is practically finished. The contractors were compelled to cut off the bend at the village of Miaratown. Next to the Lachine and Cedar rapids, the Long Sault, 10 miles west of Cornwall, is the most dangerous on the St. Lawrence. It is intended to build a canal 200 feet in length, 50 feet wide at the bottom, and 21 feet deep, to utilize the water power. There will be three turbines (twins) of 1,000 horsepower each. The power produced, it is said, will be second to none in the Dominion.

Trade Notes from Ontario.—Commercial Agent Hamilton reports from Morrisburg, June 17, 1901, that his mail is filled with letters from all parts of the United States, asking information about trade, etc., in Canada. He thinks that our merchants are making a mistake in not sending more representatives to that district. The field is open; there is no duty on samples and no tax is required. All kinds of American goods are in demand, on account of their finish and material.

Cable Service to Tampico.—Consul Magill reports from Tampico, June 20, 1901, that the office of the Mexican Telegraph Company at that place is closed to the public service, thus severing the direct connection with Galveston, Tex. Foreign messages will hereafter be routed via Laredo, Tex., overland, or via cable to Veracruz and thence overland to Tampico.

Barrels in the Argentine Republic.—Consul-General Guenther sends the following, dated Frankfort, June 7, 1901:

French official reports say that "since Brazil imposes a higher import duty on flour in sacks than on flour in barrels, it is now shipped by Argentine merchants exclusively in the latter packing. The Argentine Republic would therefore offer a good market for cooper's machinery." Perhaps not only such machinery, but staves, would, under the circumstances, find a ready market in that country; at least our stave manufacturers may find it to their advantage to investigate the possibilities for their goods in the Argentine Republic.

Cement in Peru.*—Consul Dickey writes from Callao, May 29, 1901:

I submit below such information regarding Portland cement as I have been able to procure:

Imports during the year 1899 (latest obtainable).

Country.	Quantity.	
	Kilograms.	*Pounds.*
Germany	1,090,575	2,304,282
England	157,398	347,000
Chile	242	534
United States	23	51

---

* Received too late to print with the other reports on the cement trade in Latin America. See ADVANCE SHEETS No. 1052 (June 3, 1901).

Following are the names of the principal importers:

W. R. Grace & Co., of New York, and Lima, Peru.
H. M. Beausire & Co., of Lima.
C. Weiss & Co., of Lima.
C. M. Schroeder & Co., of Lima.

Prices: Wholesale, $6.50 Peruvian silver ($2.85) per barrel of 180 kilograms (396.8 pounds); retail, $6.80 to $7 Peruvian silver ($2.98 to $3.06) per barrel of 180 kilograms (396.8 pounds).

Mahogany in South America.—Consul-General Guenther writes from Frankfort, June 12, 1901:

German technical papers state that in Central and South America the revenues of many districts depend on the skill and activity of the mahogany hunters. Mahogany trees do not grow in groups; much less are there whole forests of them. They are scattered, usually concealed in thickets. It requires skill and experience to find them. To fell a tree involves the work of two men for a whole day. On account of a thick, thorny growth near the base of the tree, a scaffold is erected around it, and above this, at a height of from 10 to 15 feet, the tree is cut, so that the best part is really lost. The felled tree is then freed of branches and hauled on a rough wagon by oxen to the nearest river, where rafts are made and floated down.

Wharf Improvements at Puerto Cabello.—Consul Ellsworth sends the following from Puerto Cabello, June 10, 1901:

The extensive repairs to the wharf here are about completed. It is built of iron, covered with 4-inch plank, and has fully 2,000 feet frontage on the harbor, with an average depth of water along its entire front of 26 feet. The harbor is the best in Venezuela. It is fully 300 feet wide at its narrowest point, and its depth is from 20 to 60 feet. The custom-houses, offices, sheds, etc., and the tracks of the steam and tram railways adjoin the wharf, and the city water mains extend along its whole south side. Ships have little difficulty in taking water and unloading or loading cargo at any point along its front. The cargoes are rapidly handled by experienced Venezuelan laborers.

Portable Houses in Caracas.—The following has been received from Consul Ellsworth, of Puerto Cabello:

There will soon be ready for local occupancy a number of pretty frame residences, manufactured in the United States and shipped in parts. These houses are supposed to be proof against earthquakes.

Port Improvements at Caribe, Venezuela.—Consul Ellsworth, of Puerto Cabello, June 14, 1901, says that Señor Francisco B. Teran has secured a contract from the Venezuelan Government to construct at the port of the River Caribe a wharf 30 meters (99.3 feet) long and 6 meters (19.7 feet) wide. The work must be begun within one year from date of contract and be completed within twelve months thereafter. In payment, the consul adds, the Government grants the contractor the exclusive right to the customs of the port of Caribe for a period of twenty-five years; at the end of this time, the wharf, with all its accessories, in good condition, is to pass into the hands of the Government.

Port Charges in Venezuela.*—Consul Goldschmidt transmits from La Guayra translation (made by Consular Agent De Sola, of Caracas) of a decree dated June 3, 1901, respecting sums to be paid by vessels required to work overtime in discharging and receiving cargo. This decree, which Mr. Goldschmidt says will greatly facilitate commerce, provides:

> The loading and unloading of steamers having a fixed schedule shall be attended to by the custom-houses of the Republic from 7 to 11 a. m. and from 12 m. to 5 p. m., and when such steamers need to work overtime (after 5 p. m.) to be able to sail the same day, the custom-houses shall grant an extra half hour's work, in which case the agents of such steamers will pay the employees detailed to attend to the clearance after the official hour the sums expressed below, the same being the amount of one day's wages of the number of employees considered necessary to properly attend to the said clearance; the charge for overtime shall be—

	Bolivars.
At La Guayra and Puerto Cabello	150=$28.95
At Maracaibo and Carupano	125= 24.13
At other custom-houses	100= 19.30

An amendment to the above, dated June 19 (transmitted by the consular agent), prescribes that the steamers shall receive attention by the custom-houses of the Republic from 7 to 11 a. m. and from 12 m. to 4.30 p. m., and that when they need to work after 4.30 p. m., the custom-houses shall grant one hour's overtime, which will be paid for as above described, even if only a part of the hour should be required.

Costa Rican Duty on Coffee.—Minister Merry writes from San José, June 19, 1901:

The Government of Costa Rica has passed a law abolishing the export duty on coffee on and after the 1st of September next. This duty, amounting to 1 cent (United States currency) per pound, it is expected will be recouped by the additional 50 per cent import duty on imported merchandise required by the law since April 28, 1901.* The export duty on coffee has been a serious burden on producers, and the coffee industry being mainly in the hands of citizens of the Republic, the relief will be much appreciated. It is hoped that the law may continue in force until coffee—which is now the main product of Costa Rica—commands a higher price in the world's markets.

---

*A report covering the same subject-matter has been received from Mr. Russell, secretary of legation at Caracas.

New Duties in Turkey.—The Department has received from Minister Leishman, of Constantinople, under date of June 18, 1901, translation of a note verbale from the Ministry of Foreign Affairs, announcing that the Turkish Government has decided to put into force the regulations of the new customs tariff relative to gold and silver objects and precious stones arriving from abroad. These articles will be subjected to an entrance tax of from 1 per cent to 4 per cent.

Proposed German Customs Regulations.—Consul Warner writes from Leipzig, June 18, 1901, that it is reported that the Reichstag will pass a law compelling American exporters to Germany to make out invoices covering the shipments, these invoices to be authenticated by the German consul in the United States in whose district the goods were produced. It is alleged that such a course will help the officials in perfecting the statistics of the imports from the United States, and will also throw another obstacle in the way of American exports to Germany.

Proposed Duty on Kerosene in Japan.—Consul Lyon transmits from Hiogo, May 25, 1901, clipping from the Kobé Daily News, as follows:

PROPOSAL TO INCREASE IMPORT DUTY ON FOREIGN KEROSENE OIL.

The Kyoto Chamber of Commerce, at the meeting held on the 17th instant, passed a resolution to submit to the consideration of the Government a proposal that the import duties on the American and Russian kerosene oils should be raised. It is declared that the step should be taken as a retaliatory measure against the high import duties imposed on Japanese merchandise in the United States and the Asiatic provinces of Russia, and at the same time to protect the oil business now fast developing in this country. This is indeed a serious question affecting Japan's foreign trade, and whether or not the Government will favorably entertain the proposal, it may be watched with considerable interest.

---

*See ADVANCE SHEETS No. 1050 (May 31, 1901).

The Lucas Gaslight.—Consul Winter, of Annaberg, May 30, 1901, says it is claimed that the Lucas light, manufactured by the Deutsche Beleuchtungs und Heiz-Industrie Actien-Gesellschaft, Berlin, can successfully compete with electricity as an artificial light. The apparatus, adds the consul, is simple, can be attached to the ordinary gas pipe, and may be readily lighted by pulling a wire. The intensity of the light is equal to 500 candlepower. One important feature claimed for it is cheapness, in comparison with electricity.

Consular Reports Transmitted to Other Departments.—The following reports from consular officers (originals or copies) have been transmitted since the date of the last report to other Departments for publication or for other action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
T. H. Norton, Harput	July 1, 1901	Rates of exchange	Treasury Department.
O. J. D. Hughes, Coburg	July 8, 1901	Sugar beets	Department of Agriculture.
Do	do	Hebrew agricultural stations.	Do.
E. Schneegans, Saigon	May 5, 1901	Rice-market report	Do.
Do	June 6, 1901	do	Do.
J. F. Winter, Annaberg	July 8, 1901	Census of Caroline Islands	Census Bureau.
F. D. Hill, Amsterdam	July 13, 1901	Crops of Great Britain	Department of Agriculture.
W. Schumann, Mainz	July 10, 1901	Vintage prospects	Do.
L. E. Dudley, Vancouver	July 9, 1901	Labor troubles	Department of Labor.
H. A. Johnson, Venice		Labor commission	Do.
J. I. Brittain, Nantes	July 9, 1901	Strikes	Do.
J. L. Doty, Tahiti	May 5, 1901	Mail transportation	Post-Office Department.
G. H. Murphy, Frankfort	July 13, 1901	German commercial relations with Brazil.	Navy Department.

FOREIGN REPORTS AND PUBLICATIONS.

Economic Conditions in Persia.—The following is summarized from the Revue du Commerce Extérieur, Paris, May 18, 1901:

Persia is composed of three districts, quite as distinct as Italy, Russia, and Siberia. These districts are scarcely united, except by caravan routes, which makes the transportation of goods very difficult, slow, and burdensome. Southern Persia is, however, entirely accessible by British steamships, which carry on the commerce of the Persian Gulf from Bender-Abbas to Bassorah. Northern Persia is served by Russian means of communication and steamers on the Caspian Sea. Recently a wagon road 200 miles long and 5.3 yards wide in the narrowest places has been constructed with Russian capital, at a cost of $5,790 per kilometer (0.6214 mile). This road connects Resht, a Persian town with a population of 50,000, situated about 20 miles from the Caspian Sea, with Teheran, which has 300,000 inhabitants. The Trans-Caucasian Railway between Batum or Poti and Baku, the Russian port on the Caspian Sea, will hereafter be the shortest route for the trade of Resht, Teheran, and the province of Ghilan. From Baku Russian boats or Persian steamers transport goods to the roadstead of Enseli, near Resht, and the new wagon road. Unfortunately, the Russian Government, desirous of reserving to its merchants and manufactures the opening offered by the Persian market, assesses such heavy transit duties on the Poti-Baku Railway as to make it almost prohibitive for international commerce. For the present, therefore, as the Volga empties into the Caspian Sea and transportation by water is much cheaper than by land, the advantage is on the side of Russian commerce, which exercises a real monopoly in northern, as England does in southern, Persia.

The provinces of Laristan, Farsistan, and Khousistan, on the Persian Gulf, form the most prosperous part of Persia. Bender-Abbas is one of the principal ports of Laristan, and Bouchir, of Farsistan; from these two ports, both important centers, the caravans start for the interior. Coffee, dates, grain, and vegetables are imported; pearls, cotton tissues, and specie exported. Trade is chiefly carried on by Indian merchants (British subjects), Persians, Arabs, and Turks. As the system of carriage by caravans is one of the most expensive in the world, England is trying to replace or to improve it. She has discovered that the River Karoun, an affluent of the Chat-el-Arab (union of the Tigris and Euphrates), is navigable as far as Ahouas, a distance of practically 100 miles; the Karoun empties at Mohammérah. By this route, it is not far to Ispahan, the winter residence of the Shah, a city of 90,000 inhabitants. The English, following the Russian initiative, wish to construct a road between Ahouas and Ispahan, and a British company is now engaged in repairing and reopening the old caravan route, which formerly connected these two towns. French merchandise follows the old route of the Caspian Sea via Trebizond, one of the seaports of the Levant. This is the natural outlet of the great Persian province of Aderbeidjan, whose capital city is Taurus; but it is destined to be effaced by the modern routes. The route Mohammérah-Ispahan could be utilized by French commerce, as well as all the ports of the Persian Gulf and the Gulf of Oman, by having recourse to British pack boats. The price of freight for ordinary merchandise between London and Bouchir is $4.85 per ton; from there to Teheran, from 10 to 15 cents per ton and per mile of 1,754 yards. The three routes—by Poti, by Trebizond, and by the Persian Gulf—are almos equally long and expensive. By Trebizond, not only the duty of 1 per cent of the value assessed by the Turkish authorities, but also the expense and annoyance of passing the Turkish custom-house twice, must be counted on. The duty in Persia is uniformly fixed at 5 per cent ad valorem, and all the revenues are leased.

Goods should be packed with the greatest care; articles sensitive to dampness in zinc cases, and parcels with an outside covering of oilcloth. Glasswares, cigars, silks, and textiles in general are imported in increasing quantities. The use of petroleum has diminished the importation of candles. Lamps, locks, clocks, phonographs, and electric-lighting apparatus are demanded. Canned goods and European medicines, leather, and shoes are growing in favor. The Persians are less conservative than the Turks, and readily consume wine and liquors, in spite of being Mussulmen.

One of the greatest obstacles to trade is the depreciation of the currency and the alloy used. The Persian kran, nominally worth 1 franc (19.3 cents), is at present valued by the amount of pure silver contained in the coin. Long credits are necessary; capital is high, loans varying from 12 to 18 per cent. There are three banks in Teheran—the Imperial Bank, of British origin; the Russian Bank of Loans; and the International Bank. Cash payments are almost impossible, except for small sums. French is the official language, and is generally understood in Persia. At Bagdad, agents can be found knowing the ways and customs of the country, who speak French and Persian and Arabian, if not Turkish. Persia belongs to the postal union.

A German syndicate is making topographical studies of the route between Bagdad, the future terminus of the German railways of Anatolia, and Teheran. It is doubtful if this enterprise will succeed, but the Germans are trying to get a foothold in Persia. The country is rich; it is the land of fruit trees, and its vineyards yield the celebrated wines of Shiraz. It was once, according to Xenophon, the most prosperous agricultural country in the world, and it still contains vast districts of arable lands, allowed to lie fallow, which might be restored to culture were the means of transportation improved. In ancient times, the land which is arid to-day was made fertile by an elaborate system of irrigation, and it is almost certain that the clearing away of the forests by the nomadic Turcoman tribes induced drought and transformed the whole center of the Iranian plateau into a desert.

Resources of Montenegro.—The Board of Trade Journal, London, gives the following résumé of schemes for working mines, railways, and forests in Montenegro:

The forests consist of oak, pine, and beach, but owing to the want of roads and means of transport they are of little value. Those easiest to work at the present time extend over 19,350 acres and contain about 11,744,000 cubic feet of wood. The present price of wood delivered at Nicsic, where the Prince of Montenegro has sawmills worked by water power, is $1.38 per cubic meter (35.3 cubic feet). A valuable iron mine has been discovered in the Sutorman hills, and negotiations have been entered into with the Government for a concession of this mine for a number of years, the concessionnaires to pay 10 per cent on the profits which they may derive from it. The difficulty of transport again presents itself as a formidable obstacle in the way of profitable mining operations. The question of a narrow-gauge railway from Antivari on the coast to Nicsic, which would not only facilitate the working of the mines, but also that of the forests, is being discussed. The length would be about 95 miles, and the total cost of construction, including rolling stock, is estimated at $2,230,478.

Antivari, the Montenegrin port which would be the terminus of the railway, is merely an open roadstead exposed to the north and to the west. A quay with two breakwaters must be built, and it must be deepened. The cost of the work in round numbers would be $250,000. It is estimated that the export trade would amount to 158,900 tons of goods and 37,000 head of cattle—about 168,000 tons in all—and the imports would amount to 8,000 tons.

The Gazette Coloniale, of Brussels, notes that a foreign syndicate has obtained the concession to develop the mines of iron, manganese, and antimony recently discovered near Antivari, and has begun preliminary work. The Government has also made a contract for the construction of the projected railway from Antivari to Nicsic, as well as for the improvement of the port of Antivari. The railway must be finished by July 1, 1904, and the port works January 1, 1903.

Economic Situation of Bolivia.—A correspondent, writing from La Paz to the Revue du Commerce Extérieur, Paris, March 23, 1901, says:

Bolivia is recovering from a long revolution, during which business has been practically at a standstill. The chief factor in the present revival is the high value of metals, especially of tin. One result of the abundant mineral production is the creation of numerous metallurgic enterprises. The regions which have profited most by this activity are Uynin, Oruro, Potosi, Colquechaca, and La Paz. The city of Cochabamba has the monopoly of the transit trade for the provinces of Beni, Santa Cruz, and Valle Grande, whose exports of quinine, coca, and caoutchouc constitute one of the great sources of wealth of Bolivia.

The transference of the Government offices to La Paz has naturally had a depressing effect on Sucre, the ancient Bolivian capital. In addition to this, nearly all the neighboring silver mines are suffering from the depreciation of the white metal, and very few are being worked. However, the general situation is prosperous, and will continue to be so as long as tin and copper maintain their present value.

In sending merchandise to Bolivia, packages should not exceed 168 pounds, which is about the average load for the beasts of burden in districts where these are the only means of transportation. Payments and bills should be addressed to the agency of the National Bank of Bolivia, which has branch offices in all of the principal towns.

La Gazette Coloniale, Brussels, April 28, 1901, says:

The rubber industry of Bolivia is chiefly located at Beni and in the Caupolican province. The methods of extraction are primitive. The trees in very damp regions furnish the best product. In 1896, about 16,000 persons were employed in gathering rubber, and this number has increased. The production in 1900 was:

	Pounds.
Rio Acre	4,409,200
Beni	1,907,521
La Paz	565,572
Puerto Suarez	64,302
Total	6,946,595

The value of the total was $5,937,788.

Trade of Greece in 1900.—From Nachrichten für Handel und Industrie, May 24, 1901:

The imports into Greece during the year 1900 reached the value of $25,087,311, against $24,720,580 in the preceding year. The export trade of 1900 was figured at $19,703,277, compared with $18,270,463 in 1899. The balance of trade in 1900 was more favorable than in either of the two preceding years. The following table gives the most important articles in the import trade:

Article.	Value.	Article.	Value.
Grain	$6,483,802	Undressed skins	$654,049
Yarn and textiles	3,181,572	Live animals	650,594
Coal	2,885,714	Paper and manufactures of	559,320
Wood	2,150,561	Coffee	530,477
Codfish, caviare, smoked fish	1,190,097	Sugar	495,919
Minerals and metals, manufactures of	1,089,387	Glass, crystal, etc	390,031
Medicine and chemicals	803,663	Rice	317,028

The exports were as follows:

Article.	Value.	Article.	Value.
Dried currants	$10,207,874	Valonia	$312,480
Metals	4,016,473	Silk	178,112
Wine	928,846	Sponges	170,759
Tobacco	688.015	Cognac	136,973
Figs	468,945	Emery	122,186
Olive oil	452,435	Gunpowder	116,808

Manual Labor in Mexico.—The following is taken from the Revue du Commerce Extérieur, April 20, 1901:

The problem of manual labor in Mexico is far from being solved, especially on the Gulf shore, whree the climate, unhealthy everywhere, frightens the natives of the interior, who easily succumb to the diseases prevailing there.

The drawbacks which enterprises of all kinds must encounter in the lowlands of Mexico are: Dangerous climate, almost total lack of manual labor, and want of means of communication. The difficulty of obtaining manual labor is not only felt at Veracruz and on the coast, but the agricultural enterprises of the interior suffer equally. Indeed, this lack of labor explains many of the reverses experienced by enterprising strangers, who have come to Mexico counting on the richness of the soil and their own intelligence for success, forgetting that in a country where Europeans can rarely work in the open air, they must take into consideration the quality and quantity of the native labor. Wages are apparently low, but dear enough for the work furnished. One firm engaged in public works affirms that it is cheaper to employ carpenters and masons from the United States at $6 a day than natives at $1.60 or $1.80 a day. The laws of the country do not offer guaranties, either to employers for the execution of contracts or to employees against the despotism of employers. Attempts to import labor from the East have succeeded only on a small scale.

Industry in Paraguay.—The Revue Commerciale et Coloniale, Bordeaux, April 26, 1901, says:

Paraguay is rich in raw materials of all kinds. Its fertile soil produces an abundance of textile plants, woods, and vegetables, which might become sources of substantial profit by subjecting them to the manufacturer's art. Unfortunately, while nature is lavish in her gifts, both manual labor and capital are lacking for their development. The women weave cotton and make laces of marvelous fineness and delicacy. The men have made progress in distilleries. There are numerous tanneries, but the methods used are primitive; with modern processes and capital, this industry is capable of great expansion. Several manufactories of essences and perfumes exist, the first the initiative of a Frenchman. Flour mills and soap works are rather numerous and must prosper; there are also carriage works, pottery, and tobacco factories.

Mercury Mine in Western China.—The Imperial Institute Journal, London, April, 1901, says:

The development of the mineral wealth of China by the employment of Western science and machinery being still in its infancy, it is interesting to note that a mine in the remote province of Kwei-chau is to be worked by foreign methods. The company has surmounted many preliminary difficulties incidental to enterprise in China, has commenced mining the mercury ore, and has sent out the plant necessary to deal with it. The route to the mine is via Shanghai, Hankau, and Shasi, to which place steamers ply regularly; the steamboat route is then left, and the journey is made by water to Changtê, about 300 miles distant, and very close to the mines. At Changtê, the upper water ways of the Yangtze River are reached, where junks and punts can be used to convey the goods to and from the mines. Coal and iron are in the neighborhood, and large iron works, which cost the Chinese Government about $389,320, and which has been handed over to the company.

Railways in Siam.—The Nachrichten für Handel und Industrie, Berlin, April 26, 1901, says:

It appears that Siam offers an extended market for bridge material, rails, and railway material of all kinds. The Government, according to present reports, contemplates building a railway about 125 miles long. The line from Bangkok, the capital, to Korat, one of the chief emporiums in the eastern part of Siam, is already opened. This is 117 miles long and has in rolling material 19 locomotives, and 38 passenger and 211 freight cars. The bridges on this line have been built mostly by Belgian firms. One of the new lines projected is to connect Banphage with Lopburi. This line is 28 miles long and will form part of the road which crosses the country from north to south, and will be the most important trade route in Siam, especially as the union of this network with the railway from Burma is contemplated. Another part of a large line will soon be built between Lopburi and Nakon Sawan, some 80 miles.

Econ 5810.2

56TH CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { Doc. No. 556, Part 2.

no cover

VOL. LXVII. NO. 253.

HARVARD COLLEGE LIBRARY
OCT 10 1901

CONSULAR REPORTS.

OCTOBER, 1901.

COMMERCE, MANUFACTURES, ETC.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1901.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

Vol. LXVII. OCTOBER, 1901. No. 253.

TRADE CONDITIONS IN SOUTH AFRICA.

Owing to the war and the plague, customs officials have been unable to collect the usual annual statistics of the business of the colonies for the twelve months ended December 31, 1900, and as all imports for the use of both the imperial and the colonial military forces are admitted duty free, it will be impossible to make an accurate comparison with the trade of the preceding year. Available figures show, however, that the imports from the United States in 1900 were greater than those of 1899, and that the United States continues to stand second among the countries exporting direct to South Africa, notwithstanding the large amount of supplies it shipped to South Africa via England.

The general situation since my last report has not changed for the better. The war drags along; trade in the Transvaal and the Orange River Colony languishes; the fields are bare and practically no planting has been attempted. Several thousand Uitlanders have returned to Johannesburg to prepare the mines for future operation. A number of these mines are at present engaged in working up the ore mined before the outbreak of the war, but they can not be run at full capacity until the return of the native refugees, which will probably not be until after the cessation of hostilities.

It was hoped that the vast amount of merchandise, mining machinery, and supplies awaiting transportation at the coast ports could be entrained, and a considerable number of freight cars and engines had been secured for that purpose (twenty of these locomotives were purchased in the United States); but with the liberation of orders came the bubonic plague, which checked business, prevented the moving of trains, caused an exodus of the population, and upset values. The plague appeared among the dock laborers, who, through fear, stopped work. The compulsory inoculation of all persons employed at the docks added to their terror. As a result, vessels were often obliged to remain in the bay for weeks. Several American ships have been delayed for as long as two or three months. The discharging of cargo was slow enough, and the plague added to the confusion. At one time there were in the harbor no fewer than 100 steamships and quite as many sailing vessels, with cargoes valued at nearly $25,000,000. Government and military supplies are always discharged first. Trade is not inactive, however, and many arrangements in anticipation of an early termination of the war are being made. Orders have been placed for steel rails and rolling stock, which will be required on the cessation of hostilities; also for bridge and structural iron and galvanized sheet iron, immense quantities of which will be needed. The rebuilding of the telegraph lines will call for much material; and the various electric installations and sanitary and water works planned or under way are to be completed.

The total value of the imports from the United States into South Africa amounted in 1900 to £4,127,428 ($20,086,128.36), as compared with £3,430,565 ($16,694,894.57) in 1899, an increase of £696,863 ($3,391,283.79). To this amount should be added the large imports for military use and the merchandise shipped from the United States via England. Neither the number nor the value of the horses and mules purchased in the United States is entered at the custom-house here. It is also to be regretted that the exports from the United States to South Africa that passed through Delagoa Bay and Beira can not be specified. Owing to the lack of statistics, as above mentioned, the increase in many articles over the importation of 1899 can not be shown. An increase in the imports from the United States over the preceding year, however, is noticed in bacon, beef (salted and pickled), corn, wheat, fruits and nuts, leather (manufactured), horses, clocks and watches, hardware and builders' tools, scientific apparatus, telegraph material, typewriters, oil and wax, turpentine, tobacco (manufactured), passenger and freight cars, locomotives, and timber; while among the decreases are canned beef, flour, lard, cotton manufactures, agricultural implements, books, maps and engravings, boots and shoes, bicycles, steel rails, and furniture. The losses in beef and flour are explained by competition from Australia and the Argentine Republic, and the decrease in the demand for agricultural implements, etc., by the war.

IMPORTS OF CAPE COLONY.

The total value of all merchandise entered (exclusive of Government imports) in 1900 was £17,161,811 ($83,517,952.23), against £15,370,971 ($74,802,830.37) in 1899, an increase of £1,790,840 ($8,715,122.86), or 10.6 per cent. This is the largest total in the history of the colony, except in 1897, when £4,774,649 ($23,235,829.36) worth was sent forward to the Transvaal, against nothing in 1900. Nearly all the increase has been in the trade of Cape Town.

Imports into Cape Colony, by countries, in 1900.

Country.	Value.	
United Kingdom	£11,052,428	$53,786,640.86
Australasia	1,350,909	6,574,198.65
Canada	4,586	22,287.77
India	200,875	977,558.19
Mauritius	351,718	1,711,635.65
Natal	557,596	2,713,540.93
Other British possessions	11,903	57,925.95
United States	1,772,580	8,626,260.57
Argentine Republic	257,421	1,252,739.30
Austria	2,075	10,979.99
Belgium	264,584	1,287,607.04
Brazil	215,398	1,048,234.37
China	27,250	132,610.13
France	106,574	1,018,642.37
Germany	554,541	2,697,673.78
Holland	166,639	810,948.69
Italy	7,060	35,833.99
Japan	2,006	9,762.20
Ladrone Islands	7,520	37,462.58
Madagascar	58,133	282,914.24
Norway	140,406	683,285.80
Portugal	48,049	233,830.46

Among the increases of imports for 1900 over 1899 are those noticed in the following table (I give quantities, where possible, instead of values, as values differ):

Imports into Cape Colony, by articles, in 1900.

Articles.	Quantity.	Value.	
Ale and beer....gallons	385,604		
Apparel and slops		£53,247	$259,126.53
Boots and shoes....pairs	11,421		
Butter and margarin....pounds	1,474,490		
Candles....do	89,597		
Cement....do	14,272,269		
Cheese....do	636,093		
Clocks and watches		2,634	12,818.36
Chicory....pounds	193,116		
Coffee		43,947	213,868.08
Confectionery and cocoa....pounds	2,873,819		
Cereals:			
Flour....pounds	22,207,838		
Corn....do	26,995,177		
Oats....do	33,415,431		
Cotton manufactures		60,775	295,721.54
Haberdashery and millinery		91,589	445,717.89

Imports into Cape Colony, by articles, in 1900—Continued.

Articles.	Quantity.	Value.	
Hats ... dozen	28,281	...	...
Iron (bar, bolt, and sheet)	...	£23,920	$116,406.68
Leather, manufactured	...	126,528	615,748.51
Linen manufactures	...	31,248	152,068.39
Meats, salt and preserved ... pounds	1,424,420	...	...
Oil, mineral ... gallons	117,759	...	...
Railway material	...	290,294	1,412,715.75
Provisions	...	272,889	1,328,014.32
Saddlery and harness	...	20,025	973,416.80
Soap, common ... pounds	2,098,973	...	...
Stationery, including printing paper	...	2,062	10,034.72
Sugar, refined or candy ... pounds	2,464,754	...	...
Tea ... do	1,211,220	...	...
Tobacco:			
Unmanufactured ... do	694,106	...	...
Cigars ... do	10,729	...	...
Cigarettes ... do	414,089	...	...
Other ... do	203,707	...	...
Wine ... gallons	35,025	...	...
Wood, manufactured	...	88,612	431,240.30
Woolen manufactures	...	24,761	120,499.41

In these increases the great bulk of supplies for the armies is not included.

As has been noted, the United States stands second in imports into this colony. Statistics of Cape Colony, necessarily incomplete, show the following increases by countries:

Australasia	£816,155=	$3,971,818
Argentine Republic	180,753=	879,634
France	36,340=	176,849
Holland	20,747=	100,975

Strange to say, the returns for Canada show no increase, although the increase over 1899 was actually very large.

EXPORTS FROM CAPE COLONY.

The total value of the colonial products (including gold and diamonds) exported amounted to £7,042,388 ($34,271,781.20), against £22,931,386 ($100,108,939.97) in 1899, the decrease, in part, being in gold and diamonds, viz, 1899, gold, £13,815,683 ($67,534,021.32); diamonds, £4,135,583 ($20,125,814.67).

Tonnage delivered at the ports of Cape Colony by foreign and British vessels.

Nationality.	Steamships.	Sailing vessels.	Total.
	Tons.	*Tons.*	*Tons.*
British:			
1899	2,701,138	202,434	2,903,572
1900	4,064,763	246,893	4,311,656
Foreign:			
1899	211,909	208,666	420,575
1900	243,079	253,721	496,800

COST OF FOOD IN JOHANNESBURG.

Article	Unit	Price
Corned beef	per 1-pound tin	$0.32
Oatmeal	per pound	.12
Paraffin	per gallon	.42
Rice, Patna (168-pound bag)	per pound	.07
Salt, table	per packet (1 pound)	.06
Pearl barley	per 7-pound tin	.81
Cabin biscuits	per pound	.16
Butter	do	.56
Candles	per packet	.14
Cheese	per pound	.30
Corn flour	do	.20
Coffee, ground	do	.40
Golden sirup	per 1-pound tin	.12
Jams, Natal	do	.24
Sugar, best Natal yellow or white	per pound	.09
Bran	per bag (100 pounds)	3.12
Flour:		
A grade	do	4.75
B grade	do	5.75
Mealies:		
Whole	do	5.50
Crushed	do	5.50
Meal:		
Boer—		
Unsifted	per bag (203 pounds)	10.00
Sifted	do	10.25
Mealie meal	per bag (183 pounds)	7.50
Potatoes	per pound	.08
Rye	per bag	7.50
Tobacco:		
Transvaal, cut	per pound	.75
Cape Cavendish	do	1.25
Eggs	per dozen	2.50

Coast ports are about 10 per cent less.

The cost of living has increased, and is still increasing, in a marked degree, not only in the coast towns but throughout the country, making it very difficult for Government and other employees to keep free from debt. Increased prices are demanded for everything, and the range of selection has been largely curtailed. Overcrowding of the cities has forced up the rents enormously, and the different town councils are discussing the feasibility of erecting dwellings to house the working classes.

AMERICAN MANUFACTURES IN CAPE COLONY.

To make a list of all the articles of American manufacture sent here during the last four years would occupy many pages. They have, in the great majority of cases, been found efficient and durable. "That is another handy American trick," is a common saying One can not enter a home without seeing some greatly appreciated

American article. Our kitchen ware and our furniture adorn many a house. The natives are astounded when they see light, strong, and efficient American agricultural implements at work in the field. The American organ is a frequent sight, and scholars sit in the schools at neat and comfortable desks "made in America." American pews make the churches more comfortable. The old and heavy English knives and axes are passing away and the American hatchets and scientific axes are cutting the kindling wood for the home and hewing down the forests. Where six yoke of oxen were once seen pulling an 8-inch plow, our American plows with one yoke now do the work, and the day is fast disappearing when it takes from six to eight yoke to draw a wagon; one American wagon, carrying the same load, can be drawn with two yoke, or a good team of horses. Imitations of American products are ever present, but there is always something about them—some little addition or change—that discloses their origin.

TRANSPORTATION.

The Hansa Line, which has just inaugurated a steamer service from New York to Cape ports, has greatly reduced the rates, taking cargo at 15s. ($3.64) per ton, instead of 50s. ($12.15). May it succeed.

The railroads are owned by the Government and were of great assistance during the war, although the destruction of lines and rolling stock has been considerable. In 1900, £942,709 ($4,587,893) were expended for engines, cars, new works, and for relaying the roads with 60-pound steel rails, in all of which the United States had a share. The railways are well conducted and every year pay a goodly revenue to the Government. Over 40,000 tons of coal, mostly colonial, are consumed monthly.

IMPORTS AND EXPORTS OF NATAL.

Value of imports into the colony of Natal during the year 1900, showing countries of origin (so far as can be stated).

Country.	Value.	
United Kingdom	£3,856,750	$18,768,878.74
British colonies	1,015,457	4.941,721,49
Austria	607	2,953.97
Belgium	42,687	207,736.29
France	27,595	134,291.07
Germany	163,878	797,512.29
Holland	31,001	150,866.37
Italy	6,043	29,408.26
Norway and Sweden	61,681	300,170.59
Portugal	2,959	14,399.97
Spain	119	579.11
China	1,000	4,866.50
Japan	309	1,503.75
Java	1,628	7,922.66

Value of imports into the colony of Natal during the year 1900, etc.—Continued.

Country.	Value.	
Sumatra	£224	$1,090.10
Egypt	1,384	6,735.24
Canary Islands	191	929.50
Madagascar	5,012	24,390.90
Portuguese East Africa	31,152	151,601.21
United States	538,499	2,620,605.38
Argentine Republic	115,686	562,985.92
Brazil	7,656	37,357.92
Total	5,911,518	28,768,527.33

The total exports from Natal were: In 1900, £1,135,322 ($5,524,984.51); in 1899, £1,905,228 ($9,271,792.06).

Goods imported from the United States, viz: In 1900, £661,841 ($3,220,816.22); in 1899, £667,799 ($3,249,843.83).

The imports of Natal in 1900, as above stated, were £5,911,518 ($28,768,402.35), against £5,359,259 ($26,080,833.92) in 1899.

Here, again, the vast import for army use does not appear.

Among the increases for 1900 over 1899 are noted:

Articles.	Quantity.	Value.	
Ale and beer ... gallons	80,498		
Animals:			
Horses ... number	6,339		
Mules ... do	32		
Oxen		£2,588	$12,594.50
Sheep ... number	5,130		
Bags, all kinds		19,798	96,296.97
Butter and margarin ... pounds	773,550		
Candles		6,002	29,208.73
Cheese ... pounds	220,208		
Clocks and watches		3,693	17,971.98
Coal		23,654	105,112.19
Cocoa and chocolate ... pounds	129,589		
Condensed milk ... do	1,594,961		
Confectionery ... do	79,898		
Cereals:			
Beans and pease ... do	115,779		
Corn meal ... do	4,452,502		
Malt ... do	1,574,661		
Oats ... do	29,119,942		
Wheat ... do	598,032		
Other grains ... do	154,787		
Fruit, dried		4,193	20,405.23
Forage (oats, straw, and hay)		68,692	324,289.62
Glassware		8,996	43,779.03
Instruments, mathematical		358	1,742.21
Iron, bar		1,432	6,968.83
Lead, sheet		2,471	12,025.12
Linen manufactures		5,001	24,327.36
Meats, frozen:			
Beef ... pounds	10,242,275		
Mutton ... do	2,657,959		
Poultry ... do	100,000		
Paper		4,154	20,215.44

Articles.	Quantity.	Value.	
Plate and jewelry		£8,165	$39,794.97
Provisions:			
Fish, dried ... pounds	101,487		
Fruit, tinned ... do	381,739		
Pickles ... do	204,025		
Vegetables, preserved ... do	239,505		
Jams ... do	903,265		
Hams and bacon ... do	386,451		
Meats, preserved ... do	1,011,914		
Oilman's stores		41,347	200,948.22
Rice ... cwts	5,897		
Spirits:			
Brandy ... gallons	13,300		
Whisky ... do	66,952		
Stationery		2,234	10,870.76
Sugar ... pounds	2,237,845		
Tin:			
Ingot		469	2,282.34
Plate and sheet		2,384	11,601.74
Tobacco:			
Unmanufactured ... pounds	61,864		
Cigars ... do	16,621		
Manufactured ... do	139,691		
Cigarettes ... do	254,975		
Wine ... gallons	75,072		

Imports by countries, as entered at the custom-house during 1900.

Country.	Increase.	Decrease.
United Kingdom	$1,077,117.05	
United States		$28,994.61
India		136,768.12
Australia	2,016,015.94	
Mauritius	26,653.82	
European countries (other than United Kingdom)		619,481.38
Other countries		56,052.35

Tonnage delivered at the ports of Natal by British and foreign vessels in 1900.

	Tons.
British	689,629
Foreign	105,112
Total	994,741

Number and nationality of vessels arriving at Natal during 1900.

Nationality.	Number.	Nationality.	Number.
American	5	German	35
British	646	Italian	3
Austrian	3	Norwegian	50
Danish	6	Portuguese	3
Dutch	1	Russian	4
French	13	Spanish	1

This does not include transports with army supplies. Only 4,273 tons of goods were brought to Natal in American vessels.

WOOD AND WOOD MANUFACTURES IN NATAL.

I attach hereto clippings from a newspaper review of a recent report of the Norwegian consul at Durban, Natal. I believe it will interest our lumbermen, for from Sweden and Norway comes much of the lumber, ceilings, and sidings used in the colonies. It will be noted that American nails are being imitated in Sweden and Norway.

REVIEW OF REPORT OF NORWEGIAN CONSUL.

Of the Norwegian goods imported, only those which could be disposed of to the army had met with any demand, while timber had continued neglected throughout the campaign. Under these circumstances, Mr. Berck had seized the opportunity to make a special study of the trade circumstances of Natal, so far as this was possible, and it is his opinion that that colony will form one of the leading markets in South Africa for Norwegian goods when the war is over.

NATAL'S PROSPEROUS FUTURE.

After alluding to the huge strides which Natal has made in every direction in the last five years, he goes on to remark that the prosperity of the colony is not like that of the Transvaal, dependent on the mining industry, things in general being more stable. Natal possesses a rich hinterland, and the augmented overberg transport trade with the Transvaal and the Orange River Colony which will ensue after hostilities cease should enable it to march steadily forward. Durban is, he says, the only town in Natal of importance to his countrymen, for the reason that it is the colony's sole port. After referring to the harbor, which he thinks may now be regarded as the first in South Africa, or at worst the equal of that of Cape Town, Mr. Berck goes on to remark that the quay accommodation had been considerably improved and extended, and although after the war there would be an enormous import trade, he did not believe that there would be any delay in the discharge of cargoes. Despite the fact that the demand for Norwegian goods is at present inconsiderable, Mr. Berck adds that timber, which was the biggest item of Norwegian imports into Natal, would always find a ready market there, and he gives some extended details of local prices, duties, landing charges, etc., for the behoof of his compatriots in general, and especially for those who desire to set up branch houses in Durban. The suggestions should be equally valuable to such of our Canadian readers as are similarly minded.

HINTS FOR EXPORTERS OF TIMBER.

Stocks of timber, he says, had not for some time previous to the time of his writing been large, and, so far as he could glean, not many cargoes were expected to arrive, and purchases had been delayed in the hope that European prices would decline. There were rumors that attempts were being made to introduce spruce pine from Canada, but he did not fear this would damage the Norwegian trade as it was not suited to the South African market, it having been found that deals cut from it were more subject to destruction by white ants than those cut from fir, and consequently architects rarely employed spruce for local buildings. Moreover, the dimensions of Canadian deals could not compare with those of Norway and Sweden then current. The market prices of timber are quoted per running foot, as follows:

Deals, fourth and fifth quality, 3 by 9 feet, up to 17 feet, per foot, 5¼d.; ditto, up to 18 and 19 feet, 5¾d.; ditto, 20 feet and above, 6½d.; 3 by 11 feet, 7¼d. to 7½d.; 4 by 9 feet, 8d.; and 4 by 11 feet, 10d. Planed—ceiling boards, quality "colonial mixed and thirds," ½ by 6 feet (⅝ by 6½ feet) up to 20 feet, per foot, ¾d.; ½ by 6 feet (⅝ by 6½ feet), ⅞d.; ½ by 4½ feet (⅝ by 5 feet), ½d. Flooring boards—same quality, ⅞ by 6 feet (1 by 6½ feet) up to 20 feet, per foot, 1d. and 1½d. These prices include delivery to buyers less 5 per cent discount, and from thirty to sixty days' credit. Landing charges are: Deals, per ton (40 cubic feet), 1s., and boards, 1s. 3d. to 1s. 6d. Sorting—deals, 9d. to 1s., and boards, 1s. to 1s. 3d. per ton; and delivery from wharf to any building site in town, 1s. 3d. per ton. The customs imposts are 1d. per cubic foot for unplaned timber and 1½d. for planed.

SIZES AND CLASSES OF TIMBER MOST IN DEMAND.

The sizes most preferred for the Natal market are: Deals, 3 by 9 feet, 4 by 9 feet, 3 by 11 feet, 3 by 8 feet, and 3 by 6 feet; scantlings, 3 by 4½ feet, 3 by 3 feet, 2 by 4½ feet, 1½ by 4½ feet, 2 by 3 feet, and 4 by 4 feet; and boards, 1 by 6½ feet, ⅝ by 6½ feet, 1 by 5 feet, and 1⅛ by 6½ feet. Mr. Berck says it is the general opinion in Norway and Sweden that any kind of timber will sell in South Africa, but this view is wholly erroneous. It is far more advantageous for exporters to send the sizes and qualities used locally and get good prices for them than to send those for which there is no demand. Although the latter eventually find buyers, after much delay, they have to be disposed of at bad prices. It has been Mr. Berck's unpleasant experience to see cargo after cargo sent of unsuitable sizes and remain a drug on the market for a considerable period. Consignors who carelessly ship such cargoes create difficulties for the consignee, who can not realize to the satisfaction of his clients. There is a big opening for spars from 28 to 40 feet in length and not less than 3 to 4 inches in diameter. They come as deck loads. The prices range from 10s. to 13s. each, landed and delivered.

SIZES AND PRICES FOR DOORS, WINDOWS, CORNICES, ETC.

Doors and windows made after Norwegian patterns do not suit the requirements of Natal purchasers. A trial consignment, made from designs furnished by Mr. Berck, had, however, been found satisfactory. The dimensions and prices of made doors most suitable for the Durban market are as under—

Six feet 6 inches by 2 feet 6 inches by 1¼ inches, molded on both sides, 8s. each; 6 feet 6 inches by 2 feet 6 inches by 1½ inches, molded on both sides, 9s. 6d. each; 6 feet 6 inches by 2 feet 6 inches by 1¼ inches, molded on both sides, 10s. 6d. each; 6 feet 6 inches by 2 feet 6 inches by 1½ inches, molded on both sides, 12s. 6d. each; 6 feet 10 inches by 2 feet 10 inches by 1½ inches, molded on both sides, 14s. each. These prices include delivery to buyer, less 5 per cent discount. Duties are 7½ per cent ad valorem per door, reckoned on cost price at place of origin. The dimensions and prices of moldings in demand in Durban are: Three-inch cornice, per running foot, 1d.; 4-inch, 1¼d.; 5-inch, 1½d.; and 6-inch, 2d. Three-inch architraves, 1½d.; 4-inch, 1⅝d.; 5-inch, 2d.; and 6-inch, 2¼d. Three-inch O. G. molding, 1¼d., and 4-inch, 1⅜d. Six-inch skirting, O. G., 1¼d.; 7-inch, 1⅝d.; and 9-inch, 2¼d. These prices include delivery to building site, less 5 per cent.

THE DEMAND FOR PACKING CASES.

There is a great local consumption of packing-case wood. Mr. Berck has received many orders for it, but had, with regret, to place them with Swedish exporters, as Norwegian quotations were much too high. He gives specifications of cases which he says he can sell in Durban to the number of from 50,000 to 70,000 per annum. Prices should be made out per case delivered f. o. b. London, or f. o. b. sailing ship, Antwerp. They should be the lowest quotation, including delivery, as the competition of Swedish and American exporters has to be met. The following are samples of three specifications:

Case No. 18.—Ends, 16 by 7 inches by ¾ inch, one piece each; sides, 19 by 7 inches by ⅝ inch, one piece each (actual); lid and bottom, 19 by 16¾ inches by ⅝ inch, two pieces each (actual). Case No. 11.—Ends, 12½ by 6½ inches by ¾ inch, one piece each (actual); sides, 28½ by 6½ inches by ½ inch, one piece each; lid and bottom, 28½ by 13½ inches by ½ inch, one piece each. Case No. 20.—Ends, 12½ by 6½ inches by ¾ inch, one piece each; sides, 20 by 6½ inches by ⅝ inch, one piece each; lid and bottom, 20 by 13⅝ inches by ½ inch, two pieces each. The thicknesses of the end pieces in Nos. 11 and 20, and the thickness of the lid, bottom, and sides of No. 18 are actual. All the other thicknesses are nominal, and $\frac{1}{16}$ inch may by allowed for sawing.

WOODEN HOUSES, MATCHES, ETC.

Ready-made wooden houses find no sale in Natal, as they are subject to destruction by white ants. Matches are now locally made, and Mr. Berck says there are three factories in work in Durban alone. The matches are excellent, and he therefore fears that they will eventually wholly exclude the Norwegian and Swedish article. Present prices range between 2s. 9d. and 3s. 6d. per gross, less 5 per cent discount, but as the imported articles have to bear an impost of 2s. per gross, there is little margin for competition.

CUT NAILS.

With respect to nails, Mr. Berck placed a trial order with a Norwegian firm for nails to be made after an American pattern, but the manufacturers declined to undertake it unless it was followed by substantial orders. Hereupon he retorts that German houses are at all times ready to manufacture to sample, and even take the risk whether the goods find a market or not. He considers that American cut nails are not so good as those made in Norway, but are much cheaper.

JAMES G. STOWE,
Consul-General.

CAPE TOWN, *July 5, 1901.*

TRADE IN SOUTH AFRICA.

British trade is envious of the vast strides made during the last four years in the exportation of manufactures and products of the United States, particularly to British colonies and dependencies. It is suggested that "a coalition of those British manufacturers interested particularly in the mining, engineering, and allied trades should be formed without delay, to obtain sites in Johannesburg, where stocks may be kept for the prompt delivery of goods." This is to forestall possible similar action on the part of American manufacturers, to secure the Transvaal mining trade. While the resumption of mining operations may portend much, I believe that there will be no immediate demand for mining machinery and appliances, for the reason that large orders have been placed (many in the United States), and at the coast ports much machinery, etc., can be found waiting for a clear track to the Transvaal. The shortage of cars may be accounted for, not only by the destruction by the Boer commandoes, but also from the fact that the construction of new ones is delayed by lack of men. Recently, ten Baldwin and ten Schenectady engines have arrived, and have completed the 1,000-mile run required by the specification. Many objections to them have been made, particularly by the operators—objections too ridiculous to mention—but the engines are busy.

RAILWAY STOCK.

If the permission of the Portuguese Government can be obtained, a line of railway will be built from Delagoa Bay to Johannesburg. The line will be broad gauge—4 feet 8 inches—and will cheapen the carriage of goods to Johannesburg over 50 per cent. Eighty miles from Delagoa Bay there has been found an abundance of coal, which will add to the value of the road. Delagoa Bay will in a short time be a port of great value to the Transvaal, and Johannesburg will probably reach a population of 500,000.

Mr. C. B. Elliott, general manager of the railways of Cape Colony, is now on his way to the Continent and the United States. In a recent interview, he stated in substance, referring to purchases for the railways, that "a preference would be given to English manufacturers, with a certain margin." But he added that the Cape government was cosmopolitan, and if the Americans offered an article as good as that offered by England, at a price below the margin referred to, the order would be given to them.

Some time ago, an order for 167 "steel self-dumping coal cars" was sent to an American manufacturer. These have arrived and are being erected at Cape Town and Port Elizabeth. They are several feet shorter than the English make, and yet carry more coal, and they are also more economical in delivery of the coal. The railway men, including the general manager, have expressed themselves as being pleased with them. The order, however, caused much complaint in England, on the ground that colonial orders for rolling stock were being diverted abroad.

UNITED STATES TRADE.

Great stress is laid upon the published statistics of Cape Colony and Natal, which show a decrease in 1900 (compared with 1899) of United States imports amounting to £334,507 ($1,627,878.32), while the increase of imports from the United Kingdom for the same period was £1,372,258 ($6,678,093.56). A decrease is also shown in the imports from almost every other country. The United States lost 12.6 per cent; Germany, 23.7 per cent; Belgium, 11.2 per cent; and Austria, 54.6 per cent. I contend, figures to the contrary, that 1900 has been the largest export year of the United States to South Africa. The statistics of 1900 can not be depended upon, as there is an entire absence of returns from Delagoa Bay. One hundred and seventy-seven million cigarettes were shipped direct to Cape Colony and Natal by one house in the United States. The statistics will not show this, and yet to this number should be added, perhaps, millions more of United States manufacture that came in via England, Delagoa Bay, and Beira. The same may be said of canned meats, cereals, tobacco, etc.

I would note the trade in "granite wool" and other substances of like character for use in cold-storage and refrigerator structures. Over 1,000 tons of this material have already been ordered, and thousands of tons will yet be needed. Arc and incandescent lamps are having quite a sale; this municipality is using one kind from the United States, 5,000 having been bought. Candies, blotting paper, chairs, picture frames and moldings, sole leather, and many other articles are coming to the front. All these are new imports, and to this consulate some credit is due.

Cement.

I am pleased to note that since the publication of the report from this office on cement,* steps have been taken to establish an agency here, and if necessary the cement will be shipped in the manufacturers' chartered ships. It is time the United States had a share in the cement trade, for, while the demand has always been heavy, after the war it will be largely increased. The report on cement called forth the following from the British and South African Export Gazette:

> Of the total imports of cement into South Africa in 1899, Great Britain furnished about 73 per cent (£106,856=$5,200,147), the balance being supplied by Germany and Belgium. If we compare this with 1889, when the United Kingdom shipped something like 95 per cent of the whole of South Africa's consumptive demands, it will be found that our exports thither have declined by as much as 22 per cent. Within the past five years, Belgium's contribution has advanced in the ratio of 40 per cent, and that of Germany by 125 per cent.
>
> While the actual exports of cement from the United Kingdom are nearly three times as much as from either of our two leading competitors (for America is at present altogether out of the running), their combined aggregate exports serve to powerfully enhance their significence. A competition which within five years has wrested one-third of our cement trade from us in only one of our possessions is indeed one to cause justifiable misgivings.
>
> The fact that the rapid rise of the continental cement trade is contemporaneous

---

*ADVANCE SHEETS No. 871 (October 27, 1900); CONSULAR REPORTS No. 243 (December, 1900).

with the launching of certain great new foreign shipping lines sufficiently foreshadows the nature of the advantage to which it owes its progress.

Attestation of this is furnished by so capable an observer as the American consul-general at Cape Town, who states that German cement, equal to the best English Portland, can be bought in South Africa at 1s., and Belgium cement at 1s. 6d., per barrel cheaper than English, shipped per steamer from Hamburg and Antwerp at 25s. per ton and 10 per cent primage, the forwardings from both these ports, as well as from other inland continental states to whom the preferential rates are open, being effected by the German shipping line, whose "considerable cheapening of freight costs" is, as professed by them, achieved less by reduced sea freights—the conference agreement preventing this—than by reduced railway charges to the European port of shipment.

Shipments are arriving from Germany, the ruling price being 5s. 6d. ($1.34) a cask of 400 pounds. One firm in this city has sold during the year 80,000 casks and another 25,000 casks. I am told that there is now a "cement trust" in Germany, with a capital of $7,500,000. Belgian cement is quoted at 4s. 6d. ($1.095) a cask. These prices are f. o. b. Antwerp or Hamburg. The imports for 1900 were over 3,000,000 pounds in excess of those of 1899.

American iron and steel.

The recent prices of American merchant iron and soft Bessemer steel made an opening for a large trade in those commodities in South Africa. One of the largest merchants here received samples of 25 tons, which were taken to the railway shops for the making of bolts, etc., and to the coach builders for iron forgings and the like. Either the blacksmiths did not know how to work American iron, or the iron was not up to quality stated, for in working it was found to be brittle; it "would not weld or head well." The failure of this shipment has struck such a blow to the iron trade that, until samples arrive that will do the work required, no headway in this line can be made. I would suggest that when iron is shipped to this country, instructions be forwarded as to the proper method of working, if this differs from the working of English iron and steel.

Bicycles.

During the year ended December 31, 1898, the increase in the imports of bicycles from the United States over the preceding year was 171 per cent, or $27,885.06—more than that of any other country. During the year 1899, the imports were less than in 1898, but more than in 1897. For the year ended December 31, 1900, a substantial increase is noticed. The formation of several bicycle corps for army service caused imports to advance. Many of the men furnished their own wheels, and the local agencies, both American and others, had all they could do, and stocks in store and on the water were inadequate.

Wagons.

It is gratifying to note the remarks of Lord Roberts regarding American wagons. He said:

> Six buck wagons were imported for trial from the United States. These proved to be superior to any other pattern of either Cape or English manufacture. The wheels were of hickory, the bodies of black walnut, and the metal work of steel. The superiority of those vehicles was doubtless due to the fact that mule wagons are largely used in America for the carriage of goods, as well as for military transport. The manufacturers have therefore learned by practical experience what is the best type of wagon and what are the most suitable materials in building them. It may be added that the wagons in question cost considerably less than the Bristol pattern.

A shipment of these wagons is now on the water and large orders may be expected. Wagons for this market must use the "Peavey brake," which is operated from the rear by a screw.

Coal.

Many vessels arrived with steam coal in 1900, and there are now at this port three ships, and others at upcoast ports. Steam coal is now quoted at 50s. ($12.16) per ton. This seems high, but the freight from the United States is 25s. ($6.08) per ton. Owing to delays in discharging cargoes, freight rates can not fall. A sample cargo of "coal briquettes" from Germany is on the water. These briquettes are composed of coal dust and tar, compressed under heavy pressure into bricks about three times the size of ordinary house bricks, and are worth 15s. ($3.65) less than Cardiff coal. It is stated that the grate bars using this fuel burn out rapidly under the intense heat generated. Coal imports for Cape Colony and Natal for 1900 were 131,000 tons ahead of those of 1899.

Lumber.

The trade for the year is highly gratifying, and the United States has had the bulk. Twelve American sailing vessels are now awaiting discharge. The lumber is principally Oregon pine. For the year ended June 30, 1901, over fifty Swedish and Norwegian sailing ships have left South Africa for our southern ports, to bring back pitch pine. It is to be regretted that American ships could not be found to do this work.

Leather.

Unmanufactured leather shows increased imports of about 1,000,000 pounds. I can only add that I regret that the exportation of sole leather from the United States was discontinued. It is not good business policy to stop exporting when a foreign market is once established, for the reason that the home market is again ample.

Food articles.

Heinz, the man who makes fifty-seven articles for the table, has had one of his agents here, and the sales have been marvelous. Everybody is tasting the goods at stores where young ladies are cooking the soups, etc. These articles have come to stay.

General.

A comparison of United States trade in South Africa with that of other countries is satisfactory, and appears still more so when it is considered that our commerce with other countries, to which we have been selling for years, is less than with this country—a comparatively new one. Taking the imports from the United States at $20,086,128.36, it is shown that South Africa takes more of our products than does the Argentine Republic, Brazil, all the other South American states, the Chinese Empire, East Indies, Russia, Denmark, Spain, Sweden, Norway, Austria, Turkey, all the West Indies (not including Cuba), or all the Central American states; and this trade is only exceeded by that with the United Kingdom, Germany, Netherlands, France, Belgium, Italy, Mexico, Japan, or Australia.

As to the future, it is said that plans are matured for expending $50,000,000 in new railways; that several thousand miles of telegraph lines are to be erected and renewed; that $5,000,000 is to be spent for public works and $15,000,000 on harbors; that $500,000 is to be invested in electric lines in Natal; and that twenty-five or more millions are to be expended in the Transvaal and a proportionate amount in the Orange River Colony. We must not fail to bid for this work.

No nation or municipality is so rich, especially after time of war, that it can afford to give to the highest bidder—even if he be of its own country—a contract to be paid for out of the pockets of the whole people. "The best goods at the cheapest price can not be kept out of the world's markets." A country laid waste, with valuable mines long idle, public works much deteriorated, must recuperate, and it takes money and products of other nations to bring about such recuperation.

Our trade for 1899 and 1900 with the Uitlanders of the Boer States (our best customers in those States) has been lost, owing to their exodus. On their return to their old businesses, their trade will again be open to us, and in time a great improvement will be witnessed, particularly in Johannesburg. The streets will be properly paved, and the sewerage system, so much needed, will be installed. A beginning has been made in opening up the mines, hotels, and stores. Goods are being forwarded by the military authorities, the dry goods merchants being permitted consignments of 10 tons, with the understanding that 50 per cent must consist of clothing and 30 per cent must be suitable for the poorer classes, while boot and shoe dealers are limited to 5 tons per shipment, 50 per cent to be suitable for the poorer classes. As soon as merchants have ample stocks, the military stores will be closed.

ADVICE TO MANUFACTURERS.

Allow me to suggest to the hundreds of our manufacturers who do not care to visit South Africa and must therefore send catalogues not to print prices in the same, for the printed prices are not, merchants state, high enough to cover, in all cases, expenses connected with the receipt and selling of the goods. Naming net prices would be better, and then a distinction must be made between the regular dealer and the wholesaler, for the latter must be protected.

CANADIAN TRADE.

A trade commissioner for the Dominion of Canada is on a visit to South Africa, with a view of ascertaining how an increase of trade between the two countries can be brought about. He claims that a large amount of Canadian goods is coming here—such as cheese, bacon, timber, and other products. He claims that if shipped direct, they could be placed upon the market more cheaply, thus creating a larger demand.

J. G. Stowe,
Consul-General.

Cape Town, *July 13, 1901.*

GERMAN EAST AFRICA.

Germany is putting forth considerable effort to develop her one possession on the east coast of Africa. The land is extraordinarily fruitful, and even if thus far the colony has not been a success financially, still, in spite of "rinderpest" and famine, each year has witnessed marked progress in the general advancement of the country.

The capital of German East Africa is Dar-es-Salaam, which is said to be finely situated on the east coast. Seven years ago, this town was nothing but a village, with half a dozen stone houses, and inhabited by about one hundred natives. To-day, it is one of the most prosperous towns on the east coast, and has 300 European and 21,000 colored inhabitants. The town is spaciously laid out, is ornamented with gardens and fine public buildings, and possesses a splendid harbor. There are also eight German mercantile establishments, three hotels, several hundred stores, and a weekly newspaper.

From the coast, good roads have been built far into the interior, From Dar-es-Salaam to Nyanza and Tanganyika, from Tonga to Kilimanjaro, and from Kilwa and Lindi to Nyassasee these roads run through an almost impenetrable wilderness. In addition to this, railroads are being planned to traverse the whole colony. The country is well adapted for settlement by Europeans. It lies from 3,000 to 6,000 feet above the sea level, and the climate is healthy. The last German consular report from the district of Kilimanjaro describes the country as being one of the most healthy and fruitful regions in all Africa.

During the past year, the German Government has exerted every effort to assist the colony along agricultural lines. Experiment stations have been established in different districts, and settlers have been encouraged and supported in every way possible. At present, attempts are being made to induce natives of the West Indies to emigrate, by promises to pay all expenses and by granting favorable homestead conditions. Without question, a settler with small capital can do as well in the district of Kilimanjaro as anywhere else in Africa. Having once settled in the country, the emigrant can count upon the assistance of the Government. Seeds and plants adapted to the climate, in sufficient quantity to lay out a whole plantation, may be had for the asking. This generous support on the part of the State has done much to improve the country. In the districts of Usambaro, Tonga, and Pangani alone there are thirty-two well-cultivated plantations, the property of as many companies and private individuals.

The products which thrive the best in German East Africa are coffee, tea, cocoanut, vanilla, etc. Unquestionably, coffee plantations are succeeding well. The average price in Hamburg of coffee raised in this region is $17.40 per cwt. Five hundred thousand Liberia coffee trees have been planted in the colony. The year 1898 was very severe, and many thousand cocoa palms were ruined. The nurseries and experiment stations have also suffered immense damage from wild animals and insects, such as the baboon and the horn beetle.

Cattle growing is perhaps the most important source of German East Africa's prosperity. Vast herds of cattle are pastured in the interior of the colony and then driven down to the coast to market. The average price of a well-fed steer is $15. In Beira, the principal harbor town in northern Portuguese Gasaland, the same steer would cost from $50 to $65. This is owing to the fact that cattle are not exported from German East Africa, on account of the very high freight rates demanded by the different ocean vessels which touch at Dar-es-Salaam. Hogs and donkeys thrive in the colony, and fowls of every description are successfully raised.

JNO. F. WINTER,
Consul.

ANNABERG, *June 25, 1901.*

RESOURCES OF THE KONGO FREE STATE.

Consul Roosevelt, of Brussels, under date of July 24, 1901, transmits the following information relative to the Kongo Free State (obtained at the request of a resident of Nebraska,* from the Secretary of Foreign Affairs of the Kongo):

The region of Mayumbe, in the Lower Kongo, and all parts of the Upper Kongo comprised between Stanley Pool and the basin of Aruwimi are covered by vast forests, the nature of which is as yet little known; however, certain species of trees have been recognized as excellent for cabinetmaking. Vines of caoutchouc, species known as *Landolphia* and *Periploca*, as well as the trees *Ficus* and *Kickxia*, are frequently found. All of the caoutchouc thus far collected in the Kongo has been gathered from these vines and trees, and from the *Carpodinus lanceolatus*, which produces weed caoutchouc. No plantations of sugar cane have been established by foreigners. The Government owns the cacao plantations. Mines of iron and copper have been discovered.

To prevent contests relative to the rights of property, the Government has confided to the Kongo administration authority to determine the exact location and to complete the delineation of alienated land. No new requests for the purchase of land for homesteads will be considered until this work is completed. No distinction relative to the nationality of private persons or societies is made by the laws of the Kongo. There are no formalities to be complied with in order to exercise any trade.

AMERICAN COAL HOISTER AT ALEXANDRIA.

I have to report another trade invasion of Egypt by Americans, no less important than the securing of the Atbara bridge contract, which attracted so much attention on both sides of the Atlantic a few years ago.

The greatest work ever undertaken in Egypt in regard to discharging coal from steamers has just been completed in Alexandria. The huge mass of machinery that towers above the surrounding ships owes its origin to Mr. Alexander E. Brown, an American engineer, who has invented a system of suspended bridge tramways, whereby colliers could be unloaded automatically in about one-quarter of the time taken by manual labor and the use of steam winches. The Egyptian railway administration decided to adopt this system; the present apparatus is the first that has been installed in Africa.

The hoisters here are alleged to be capable of unloading 2,120 tons of coal in a working-day of ten hours. A boat that now takes a week to discharge will, it is stated, by the help of these coal hoisters, be discharged within forty-eight hours of berthing. These machines will be able to work on two or three ships at a time, and the saving of labor is apparent. There will result an enormous decrease in "small," as there will be no coal dust flying about. Every bit of coal will be put into buckets and carefully unloaded again, none being wasted.

---

*To whom the original report has been sent.

These suspended bridge tramways, or, as they are popularly called, coal hoisters, are each 353 feet 9½ inches in length. They have the appearance of an aërial bridge with a cantilever-arm extension at either end. The method of working is as follows: On a suspended track on the bridge, 14-inch gauge, runs a trolley carrying buckets, each having a capacity of 1 ton. On arriving over the hold of the ship, the bucket is automatically lowered The buckets can be unhooked, so that three or four can be filled at the same time. When the bucket is filled, it is raised again to the trolley and run back and discharged at any point on the quay or into railway trucks. A bucket can be raised from the hold of a ship, put on the trolley, carried to the farther end of the bridge, discharged, and returned to the hold again in the space of one minute. The bridge is 27 feet clear at the lowest part, and the highest part is 72 feet. Each bridge is supported on a pier at the sea end and shear legs on the other side.

The pier allows room for two railway trucks beneath or inside. The bridges are divided into three sets of two in a set, one of which contains a boiler and two engines. These engines operate the trolley and raise and lower the buckets by wire ropes. The engines are of about 25 horsepower. Steam is used instead of electricity, as it is more economical, the work not being continuous. Each bridge stands on three tracks, two under the pier and one under the shear legs, and each set of bridges may be moved the entire length of the quay independently, so as to be available in any one of the berths. The operation of each bridge is controlled by one man, and is effected by steam power from the same engine that works the buckets. Each bridge is hinged over the pier and pivoted on shear legs, so that it may be swung to a distance of 23 feet on either side of the center. The object of this is to allow a greater area of the quay to be covered, and it is also useful in preventing the twisting of the bridge in case of slipping of the wheels. There is another automatic arrangement by which the coal below the bridges may be scooped up and loaded into trucks or barges. This is done by a scoop bucket, and is absolutely independent of manual labor. The weight of the entire plant is about 800 tons. All the material is soft steel, combining the greatest strength with lightness.

JOHN G. LONG,
Agent and Consul-General.

CAIRO, *July 8, 1901.*

SLAVE TRADE IN EGYPT AND ABYSSINIA.

EGYPT.

The slave trade in this part of the world is attracting the attention of people in the United States, as evidenced by numerous letters received asking for information, and a report thereon may not be inappropriate. It may be stated that all trading and trafficking in slaves in Egypt has practically ceased. The success of the Government in the trial of the celebrated "Sharkieh case," which was tried in the courts at Cairo in 1899, and a subsequent case of kidnaping which took place at Luxor, on the Nile, virtually put an end to slavery in Egypt. The great publicity given these cases, the prominence of the defendants, their trial, conviction, and punishment attracted the keenest interest throughout the country, and have resulted in producing the best and most desirable effect. It is now fully realized in Egypt that the new convention and laws can not be evaded or disregarded with impunity. Prior to the year 1899, but little had been accomplished by the earnest and persistent efforts of the Department of the Interior through the "slave-trade department" in Upper Egypt and the Sudan. Indeed, it was generally understood (and I believe so reported by a high and responsible Government official) that slave traffic in the Sudan was on the increase, and the amount of kidnaping which was taking place in large centers of population, such as Assouan, Berber, Omdurman, Suakin, etc., had become a serious cause for apprehension. The renewed energy and zeal of the "slave-trade department," inspired by the complete success of the Government in the conviction and punishment of the guilty parties in the trial of the cases quoted (in Lower Egypt), has had the effect, it is thought, to check this evil in the Sudan.

The following statistics show the decrease at Assouan and in Egypt. It will be observed that at Suakin the convictions have greatly increased, owing, it is thought, to the greater mobility of the camel corps in 1900:

District.	1899.			1900.		
	Cases.	Persons convicted.	Persons acquitted.	Cases.	Persons convicted.	Persons acquitted.
	Number.	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*
Assouan	7	14	8	4	5	1
Keneh	2	10		1	3	
Suakin				10	17	2
Sharkieh	1	3	3			
Khartoum	1	1	2			
Total	11	28	13	15	25	3

The department attaches great importance to the fact that it has been fortunate enough to capture, a short time ago, one of the principal sheiks of the Rashidas, one of the most troublesome and dreaded tribes in the Sudan, in a slave-trading case in which he was a purchaser and vendor. This man was tried, convicted, and sentenced to seven years' imprisonment, thus bringing the number of convictions obtained by the department up to ten in four months, and establishing important precedents that must bring the best results. The effect of these convictions is noteworthy, as about six months ago the Rashidas to the north of Suakin embarked in their dhows and went to Massaua; and after the trial and conviction of the Sheik Marshood, the greater part of his tribe and followers, not finding the Suakin and Tokar districts as pleasant as formerly, migrated east into Italian territory, and it is thought that not more than about forty Rashidas are now left in that district. The governor-general of the Sudan—in sympathy with the efforts of the department to suppress traffic in slaves—has communicated with the governor-general of Eritrea on the subject. The practical disappearance of the Rashidas, coupled with the fact that an English inspector of the department is permanently posted at Suakin, must be regarded as an important and most significant step forward.

Capt. A. McMurdo, in a recent report, says:

> I have lately reported to the governor-general of the Sudan concerning the work carried out in the Suakin district by the departmental camel corps, and in referring to the emigration of the Rashidas I earnestly requested it should be made law that those of the tribe who had emigrated should never be allowed to return to the Sudan, under penalty of confiscation of their flocks. I mentioned in my report of 1899 the advisability of extending the work of the department to the Sudan, and I am glad to be able to report that all arrangements with the sirdar have been completed; that a camel corps of the department is now marching to Afarama, on the Atbara; and an English inspector, who is permanently posted to the Sudan, will take charge of and carry out the work of the department here, having Khartoum as his headquarters. It is most probable that a detachment of camel corps from Adarama will be posted at Gos Regeb, from which place they will keep in touch with the detachment at Adarama and the native camel corps now quartered at Kassala. In this way, the country between Kassala and Berber will be constantly patrolled, which should form a great obstacle to the slave traffic. Again, the camel corps at Suakin, besides guarding that district, will occasionally communicate with the native camel corps, either along the Italian frontier, the Khor Baraka, or the Langeb route, the object being to establish as complete a cordon as possible across the eastern outlet of the Sudan.
>
> This extension into the Sudan has necessitated a few changes in the strength and disposition of the forces of the department in Egypt. I have abolished the post of Rakakna, near Girgeh, where a slave case has never occurred, and amalgamated it with Deraw, which brought the strength of that post up to about 125 camel-corps men; of these, 100 are on the march to Adarama. The strength of the Deraw post will then be kept up to about 30 camel corps, which is quite sufficient for the necessary desert work about the Assouan district. The remaining post

in Egypt is Kerdassa, near the pyramids; this is practically the depot of the department, where men are trained and from time to time feed the vacancies that occur at the various outstations.

Distribution and approximate number of slavery forces.

District.	Men.	Camels.
Egypt:		
Kerdassa	25	25
Deraw	30	30
Suakin	100	100
Sudan (Adarama)	100	100

The slave trade at Jedda has been the most serious and difficult to arrest or overcome. The principal traffic is from Massaua and the coast north thereof, in Italian territory, Abyssinia, Hodeida, and Yemen. Yemen is noted for the export of the eunuchs, who are procured from Abyssinia.

At Jedda, there are twelve well-to-do slave merchants, whose names and depots are well known. About 50 to 100 slaves are imported to the Hegaz from the African coast north of Massaua; they are principally Abyssinians, with a few eunuchs.

The prices are: Male or female, 14 years old, about £16 ($80); 14 to 20 years of age, £20 to £25 ($100 to $125); 20 to 30 years of age, £30 ($150) each. In Medina and Mecca the prices for both sexes rise to 50 per cent and upward, and eunuchs command readily from £80 to £100 ($400 to $500) apiece.

ABYSSINIA.

A traveler, who has recently crossed Abyssinia, which he entered by the Zeila route and left by the Blue Nile, writes that he had an especially good opportunity of noting the present condition of the slave trade in that region. In that portion of the country which is completely under the control of Menelik, he informs me that slavery exists, but in a very restricted and comparatively humane form, the powerful chiefs alone being permitted to acquire domestic slaves, who become in effect members of the household. There are no auctions or open sales. In the country of Godjam, however, which is nominally subject to Menelik, the institution of slavery openly exists, and public sales take place in the ordinary weekly markets. The supply of victims for this traffic is principally obtained by organized raids upon the strip of country inhabited by mixed Shangalla tribes, which separates Abyssinia proper from the Anglo-Egyptian Sudan. The boundaries of this territory are the River Bolasso on the east and a line running north from Famaka (a town on the Blue Nile). The writer states that the survey now proceeding, which has for its object the delimination of the frontier between

Abyssinia and the Sudan, will not be completed for at least another year, and he expresses the wish that the territory referred to could be included in the Sudan, and so brought under Anglo-Egyptian administration, when an end would be put to the slave trade.

LIBERATION OF SLAVES.

During the month of November, manumission papers were granted by the Repression of Slave Trade Department to 21 slaves—8 males and 13 females. All of them were Sudanese. Two came from the Nubia Province, 3 from the Keneh Province, 3 from Suez, and 13 from the Red Sea littoral.

The manumissions in 1900 were as follows:

Description.	Males.	Females.
Sudanese	90	212
Abyssinians	2	17
Circassians	....	9

Total, 330; or 46 less than last year.

Statement showing the number of slaves to whom manumission papers have been granted during the years named, the new convention having been promulgated the 21st of November, 1895, with effect from May 20, 1896.

Year.	Sudanese.		Abyssinians.		Circassians.		Total.
	Men.	Women.	Men.	Women.	Men.	Women.	
1895	213	255	3	11	....	....	482
1896	532	489	1	6	....	....	1,028
1897	392	503	....	5	....	....	900
1898	55	217	30	24	8	....	334
1899	139	203	4	27	3	....	376
1900	122	189	2	17	....	....	380
Total	1,453	1,856	40	90	11	....	3,450

The complete suppression of slavery and slave traffic in the Sudan involves many difficult problems yet to be solved.

JOHN G. LONG,
Agent and Consul-General.

CAIRO, *June 27, 1901.*

SUEZ CANAL TRAFFIC.

The British Suez Canal directors have reported the navigation through the Suez Canal for 1900, as compared with that of the two previous years. The following is a summary of the report:

The net tonnage for the past year shows a decrease of 157,477 tons, as compared with that of 1899, but an increase of 499,549 tons as compared with that of 1898.

The transit receipts, which in 1899 amounted to 91,318,772 francs ($17,624,230) and were higher than in any previous year since the opening of the canal, fell to 90,623,608 francs ($17,490,356) in 1900, being a decrease of 695,164 francs.

The number of vessels which passed through the canal was 3,503 in 1898, 3,607 in 1899, and 3,441 in 1900, of which 2,295 in 1898, 2,310 in 1899, and 1,935 in 1900 carried the British flag.

There has consequently been a falling off in the tonnage of British vessels, which amounted to 6,297,743 tons in 1898, 6,586,310 tons in 1899, and 5,605,421 tons in 1900. During the same period the tonnage from German vessels has increased from 969,597 tons in 1898 to 1,070,767 tons in 1899 and 1,466,391 tons in 1900.

RETURN OF SHIPPING UNDER CATEGORIES.

Of 2,407 merchant vessels and vessels in ballast, of a net tonnage of 6,612,316 tons, passing through the canal, 1,661 ships, of a net tonnage of 4,705,634 tons, were British, being fully 69 per cent of the number and fully 71 per cent of the tonnage; 291, or 12 per cent, were German vessels, whose tonnage was 11.1 per cent of the whole; France, Holland, and Austria-Hungary combined furnishing a total of 11.8 per cent of the vessels and 9.6 per cent of the tonnage of the carrying trade to the East through the Suez Canal.

GENERAL YEARLY RETURN FROM THE OPENING OF CANAL TO PRESENT TIME.

In the ten years 1889–1898, the annual net tonnage ranged from 6,783,187 tons to 9,238,603 tons, and the transit receipts from 66,167,579 francs to 85,294,769 francs ($12,779,343 to $16,461,890). The average of the net tonnage was 7,992,897 tons, and of the transit receipts 75,126,933 francs ($14,489,498), while in 1900 the net tonnage was 9,738,152 tons and the transit receipts amounted to 90,623,608 francs ($17,490,356). The mean net tonnage per vessel also rose from 1,951 tons in 1889 to 2,743 tons in 1899, as against 2,830 tons in 1900.

AVERAGE PASSAGE.

The mean duration of passage for all vessels navigating the canal amounted to eighteen hours and thirty-two minutes in 1900, as compared with eighteen hours and thirty-eight minutes in 1899. In 1900, the percentage of vessels navigating by night was 91.2 per cent, as against 90.7 per cent in 1899.

DRAFT OF VESSELS.

The percentage of vessels drawing less than 23 feet was 58.9 in 1899, as against 62.4 in 1900; while that of vessels drawing more than 23 feet was 41.1 in 1899, as compared with 37.6 in 1900.

The maximum draft allowed for vessels passing through the canal is 25 feet 7 inches, and 302 vessels, drawing more than 24 feet 7 inches, used the canal, as compared with 386 in 1899 and 374 in 1898, representing a percentage of 10.7 in 1898, 10.7 in 1899, and 8.8 in 1900. It is hoped that before long the maximum draft allowed will be raised to 26 feet 3 inches.

It may be of interest to remark that in 1890 only 13 vessels passed through the canal with a beam of 49 feet 2 inches or more. Since 1895, the number has increased as follows: Forty-two in 1895, 68 in 1896, 92 in 1897, 123 in 1898, 159 in 1899, and 212 in 1900.

NUMBER OF TROOPS AND PASSENGERS.

The number of troops carried through the canal in 1900 amounted to 154,249, as against 108,552 in 1899, being an increase of 29,711 Russian, 28,770 French, 22,634 German, 634 Italian, 587 Japanese, 319 Dutch, and 297 Portuguese, against a decrease of 13,238 British, 8,543 Turkish, 7,891 Spanish, and 7,583 American troops, as compared with 1899. The number of civilian passengers amounted to 102,415 in 1900, as against 88,616 in the preceding year; while the number of pilgrims, emigrants, and convicts was 25,530 in 1900, as compared with 25,179 in 1899.

In the year 1870, 26,758 civil and military passengers were carried through the canal; in 1880 the number rose to 98,900; in 1890, to 282,203, as against 221,348 in 1899.

JOHN G. LONG,
Agent and Consul-General.

CAIRO, *July 1, 1901.*

BICYCLES IN TURKEY.

A pronounced demand for American bicycles has arisen in and about Harput.

The pioneer bicycle, which I brought with me at the time of establishing this consulate, six months ago, has attracted general attention and interest. Many have been prompt to recognize the exceptional adaptation of the extensive Harput plain, with its comparatively level and well-kept roads, to the use of the bicycle. Personally, I have found the wheeling excellent, even among the hills, over the narrow bridle paths.

At least a score of gentlemen, including the vice-governor-general and other officials, have expressed the wish to secure wheels from the United States.

In order to meet the demand, at my suggestion an agency for American bicycles has been established here, and an order sent to the United States.

The agent, Mr. S. G. Vartabedian, was formerly employed in the Colt Works at Hartford, is a skillful mechanic, has a good equipment of American tools, and can satisfactorily handle the ordinary repairs. Being familiar with English, Turkish, and Armenian, he is exceptionally well qualified to represent this branch of American manufacture in what is virgin territory.

Bicycle firms desiring to enter this field can address correspondence directly to this consulate (post-office address, Mezreh, Mamouret-ul-Aziz, Turkey in Asia). Posters and illustrative matter can advantageously be sent with preliminary letters.

The types of wheel which will find ready sale here should be simple in style, provided with brakes, and as low priced as is consistent with durability and the use of first-class materials. The climate is hard on caoutchouc, and in the choice of tires it is necessary to bear in mind the frequency of stones on all oriental highways.

It is desirable to study methods of packing frame and wheels so as to insure the maximum of economy in cubic space for the long ocean journey to Samsoun, the nearest port on the Black Sea, as well as low weight for the two or three weeks' trip over the mountains to this city. The packing should be such as to effectually prevent any damage from the continuous jolting and rubbing during this overland journey.

Anatolian female garb and riding customs are such that the diamond frame will probably meet all demands made for some time on the agency.

THOMAS H. NORTON,
Consul.

HARPUT, *June 19, 1901.*

EXHIBITION OF AMERICAN GOODS AT HARPUT.

Since the establishment of this consulate (January 1, 1901), a keen desire has been expressed in the mercantile circles of Harput and Mezreh to enter into direct commercial relations with the United States. To best consummate this end, at my suggestion an agency for American manufactures has been established at these two cities (2 miles apart), which, at an early date, will extend its operations to Malatia, Diarbekir, Mardin, Arabkir, and other important commercial centers of this consular district. The organization is known as the "American Agency for Eastern Turkey." The manager is Mr. Avedis G. Adjemian, a graduate of Robert College, Constantinople, and of the Massachusetts Agricultural College, at Amherst. Mr. Adjemian was employed for a year at the Kansas Agricultural Experiment Station, has traveled throughout the farming regions of the United States, and has made a special study of the adaptation of American agricultural methods and machinery to Anatolia and Mesopotamia. He is exceptionally well fitted in all respects to represent American interests in this region.

The efforts of the agency will be chiefly directed, at the outset, to the introduction of agricultural machinery and everything connected with the needs of the large farming interests. The density of population of the large fertile Harput plain is greater than that of England. To aid in this work and serve as an object lesson, a model farm, cultivated exclusively by American machinery, has been started at Ashvan, a few miles to the northwest of Harput, in a peculiarly well-watered spot on the banks of the Euphrates.

In the opinion of the governor-general of the vilayet, who is warmly interested in the matter of introducing American implements, there would be a decided advantage in also having the new machinery at work in the immediate vicinity of Mezreh, the capital, so as to be easily seen by the large number of people resorting there from every section of the province. He has accordingly very generously placed at the service of the manager of the agency a large tract of arable land in the neighborhood of that city, on which the operations of plowing, sowing, cultivating, and harvesting the standard crops of the country can be readily followed and studied.

In addition to agricultural implements, etc., the agency will also devote its attention to the introduction of farm wagons and other vehicles; pumps, windmills, hydraulic rams, and drills; flour, cotton, and silk milling machinery; iron, mechanics' tools, kitchen utensils, carriage springs, structural and general hardware (nails, locks, hinges, screws, etc.), leather and saddlery, petroleum, lamps, clocks, stoves, furniture (iron bedsteads, folding chairs, and tables), cotton goods (showy prints and heavy cloth for awnings and tents), paper, paints, shoes, toys, notions, etc.

As it is practically impossible in the Orient to secure orders or enter upon business relations except on a basis of samples, I have decided to establish an exhibit of American wares in connection with this consulate, where the merchants of the region can see our products properly displayed and receive at any time desired information, enabling them to correspond directly with American manufacturers or forward orders through the above-mentioned agency. To that end, a large room on the ground floor of the consulate has been arranged for such an exhibit.

The American agency has agreed, until further notice, to arrange, label in Armenian and Turkish, and keep in good condition all samples of goods received at this consulate. The agency has further agreed to bear a certain proportion of the expense connected with the sending of samples here. It is also ready to pay port fees, customs duties, and freight from the seaboard to this point on any sample of American goods sent freight prepaid to Samsoun, our nearest port; provided that such sample does not exceed $5 in value or 30 pounds in weight. For samples of greater value or weight, correspondence in advance is requisite. Agricultural implements are admitted free of duty. Samples of cloth less than 11 pounds (5 kilograms) in weight are likewise admitted free. Other wares pay duties amounting to 8 per cent ad valorem on a low valuation.

Exporters wishing to take advantage of this opportunity can forward samples addressed to this consulate, in care of the United States consular agent at Samsoun, sending invoices to the latter for presentation at the custom-house. Samples by mail may be addressed directly to this consulate.

It would be well, in order to simplify matters at the custom-house, to attach to each sample a label reading "Échantillon pour l'exposition commerciale du consulat des États-Unis à Harpout" (sample for the commercial exhibit of the United States consulate at Harput). It would be well to send with the articles a few illustrated posters. In the price lists of wares sent, it is likewise desirable to indicate against each article the cubic contents and the weight, when packed ready for exportation. This facilitates calculations on the total cost of freight by sea and by land between an American seaport and this city.

The time is ripe and the conditions are peculiarly propitious for American manufacturing enterprise, especially in the lines above indicated, to gain a permanent foothold in this region, where at present but little active foreign competition is to be encountered.

No pains will be spared on the part of this consulate to further the efforts of American exporters who desire to avail themselves of the opportunity now open.

THOMAS H. NORTON,
Consul.

HARPUT, *June 11, 1901.*

WAGON ROADS IN PALESTINE.

One of the greatest thoroughfares in Palestine is that between Jerusalem and Nablous, the ancient Shechem. For centuries, it has been only a camel path, in many places rough and stony, and in spite of the vast amount of traffic, it was not until 1900 that an effort was made to connect the two cities by a carriage road. Early in that year, the route was surveyed and specifications sent to Constantinople, whence orders for the construction of roads must emanate. Work was begun the following autumn, and in March of the present year the first carriage passed over the completed section between Jerusalem and Bireh.

The extreme width of the roadbed is 19 feet 6 inches. After the grading, a bed of cracked stones 8 inches in thickness was made, over which earth was spread. The road was then well rolled. The grade is good, there being very few places where a horse can not trot. I refer, of course, only to the completed portion between Jerusalem and Bireh. The culverts and small bridges on this section are twenty in number, with three additional bridges of fair size, the largest having two 10-foot arches, separated by 15 feet of solid masonry. These culverts are necessary to accommodate the small torrents created by the winter rains, which often do great damage.

From Jerusalem to Sinjil is a little over 19 miles, and from Bireh to Sinjil about 10 miles. The entire distance from Jerusalem to Nablous is 38½ miles. American travelers will remember Sinjil as their camping place the first night out of Jerusalem, going north toward Damascus. It is a curious fact that "Sinjil" is an Arabic adaptation of "St. Giles" of the Crusades, and "Bireh" is the Biblical

"Beeroth" mentioned in Joshua ix, 17. Bireh has a good spring, and there has been talk of bringing water thence to Jerusalem.

The contract price for building the completed section of the road was about $23,000. There were only two bidders, both Christians (Armenians). Mohammedans and Jews do not engage in such work.

The distance between Bireh and Sinjil is only 1 mile greater than that between Jerusalem and Bireh, but the country is more rugged. There are many natural obstacles to be encountered, and the estimated cost of that section is from $40,000 to $44,000. Specifications have already been sent to Constantinople, and it is hoped this portion of the road will be built next year. The money will be raised in the Jerusalem district by a tax upon the peasantry. The Jerusalem district ends at Sinjil; what is north of that point comes under the jurisdiction of Nablous. This route is associated with many famous historical events, and the contiguous country contains the sites of the ancient cities of Nob, Gophna, Beeroth, Bethel, Ramah, Shiloh, etc.

The wagon roads already existing in Palestine are:

(1) Jerusalem to Yafa, 40 miles; begun in 1868, but a number of years elapsed before wagons could pass over it, and then only with difficulty, ten to twelve hours being required to go down to Yafa and fourteen to sixteen to climb back up the mountains. Thousands of tourists will remember the great discomforts of this trip. It was only in 1892, when the railroad between these two points became a certainty, that the Jerusalem and Yafa road was made fairly comfortable for carriages.

(2) Jerusalem to Hebron, 23 miles; completed in 1890.

(3) Jerusalem to Jericho, about 22 miles; completed in 1898. Ten years were spent in building this road.

(4) Jerusalem to the top of the Mount of Olives, about 4 miles; made in 1898 for the Emperor of Germany.

(5) Jerusalem to Bireh, 9 miles; just completed.

It is true that carriages go from Jericho to the Dead Sea and the River Jordan, but there is no road, the carriages driving where they please across the plain. Likewise wagons go along the roadless seacoast from Yafa to Haifa, at the foot of Mount Carmel, the road which was made for the Emperor of Germany in 1898 being entirely in ruins. Wagons also go from Yafa to Gaza, but no road was ever made there.

SELAH MERRILL,
Consul.

JERUSALEM, *June 11, 1901.*

THE MINERAL TREASURES OF PALESTINE.

Kirchoffs Technische Blätter has received the following communication from a German mining engineer in Palestine:

> Valuable mineral treasures have recently been discovered in Palestine, so it is safe to say that the industrial awakening of the Holy Land is no longer a dream. It is true that the greater part of the once flourishing country is a barren desert. The lines of communication are miserable, and traffic is unsafe, aside from the one railroad from Yafa to Jerusalem.
>
> The newly discovered mineral deposits lie on both sides of the Jordan and the Dead Sea. The salt deposits of the Dead Sea could be developed into an industry. The waters hold chlormagnesium, brommagnesium, and calisalt. Aside from this, there are the bituminous chalk springs of Nebi Musa, which contain from 30 to 40 per cent asphalt.
>
> The most important of all the deposits is phosphate. As is well known, natural calkphosphate, phosphorite, and coprolite are necessary for the production of superphosphates. This latter composition and sulphur form the most important ingredients in the preparation of artificial manure. At present, the phosphate mines of Florida almost supply the world's demand.
>
> The immense fields of phosphate to the east and west of the Jordan need only better means of traffic and communication in order to insure their development. This, it would seem, is not far distant, as the Turkish Government is planning a continuation of the Yafa-Jerusalem Railroad, and steamboats are already plying the Dead Sea.

ERNEST L. HARRIS,
Consular Agent.

EIBENSTOCK, *July 10, 1901.*

TRADING COMPANY IN PERSIA.

I transmit a free translation of the rules of association of the Persian General Trading Company, which appeared in the paper Etila, dated the 9th of June. As this is a new departure on the part of members of the mercantile community of Persia, who have hitherto refrained from entering into partnerships or associations in the prosecution of any species of enterprise, I have thought it advisable to report it. In the general expansion of American trade, it is not improbable that the interests of our manufacturers and merchants may, to some extent, receive impetus and encouragement from this new competitor in the fields of commerce.

I am informed that a part of the capital has been subscribed, but it will take time and success to recommend it as an investment to the public.

JOHN TYLER,
Vice-Consul-General.

TEHERAN, *June 20, 1901.*

RULES OF ASSOCIATION OF THE PERSIAN GENERAL TRADING COMPANY.

SECTION I. This company has been formed with the approval of His Majesty the Shah and under the patronage of the Prime Minister, for the purpose of facilitating the consumption of Persian manufactures, negotiating loans, improvement of agriculture, development of mines, organizing factories, constructing roads, and for any other useful purpose.

SEC. II. The capital of the company is to consist of 1,000,000 tomans ($1,000,000), to be divided into 20,000 shares of 50 tomans ($50) each. Subscribers may take from one share up to 1,000, but less than one share will not be accepted. If this capital should not, eventually, be sufficient for the enterprise of the company, it has the right to issue additional stock on the same conditions.

SEC. III. All persons desirous of becoming shareholders in this company, whether in the capital or in provincial cities, must apply to the chief office in Teheran for the certificates, which have been specially printed for the company and will be delivered by the chief accountant, each one bearing the seals of the seventeen founders and directors of the company.

SEC. IV. The directors reserve to themselves the right, for any cause or causes, to reject the application for shares of any person whosoever without explaining the reason.

SEC. V. The sale or transfer of shares, whether before or after the yearly balance sheet be made up, must be notified to the head office, that the new holder's name may be substituted for the original subscriber, in order to prevent confusion. If any of the certificates shall from any cause whatever be lost or destroyed, the directors hold themselves responsible for the sum represented and interest on the same.

SEC. VI. It is ordered that at the yearly meeting and presentation of the report of the company's transactions, each shareholder or his agent shall be present, in order to inform himself of the condition of the affairs of the company.

SEC. VII. All loans granted by the company will be on the personal security of the party contracting the loan, and no further guaranty will be demanded. If, however, it should be necessary to have a guaranty, only one bondsman will be required. Providing it be required that a borrower find a surety, no one serving on the committee of management will be accepted. Interest is to be paid, and the period of the loan will depend upon time and circumstances, but always be in accordance with the terms of the law.

SEC. VIII. Provided a person applies for shares in the company and has not sufficient ready money to pay the amount, but is a creditor for outstanding accounts, the committee of management will verify his statements, and, if his claims be genuine, will accept them in lieu of cash. If, moreover, the party has salable goods, they will take, at a fair price, as much as will cover the amount of the certificate.

SEC. IX. All persons desious of making permanent deposits with the company, if their proposals be accepted, will, on payment of the money, be given a special deposit receipt, whereby the founders guarantee the principal and interest on the same.

SEC. X. If any shareholder shall, after the yearly statement and accounts have been made, desire to realize his stock, he is at liberty to do so; but prior to the delivery of the balance sheet no application will be accepted.

SEC. XI. The central offices will be established in the State caravansérai, at Teheran.

SEC. XII. In order to have an effective control over the affairs and general business of the company, the directors have considered it necessary that one of their members should be appointed managing director, and have selected for this position Hajie Seyd Mohammed, a native banker.

SEC. XIII. The directors of the company will meet one day a week at the central offices, for the purpose of regulating the business of the company, removing difficulties, and giving a general supervision to the enterprise.

SEC. XIV. The directors and trustees of the company are the following: Hajie Mohammed Kazem, Malek Tujar, Hajie Mohammed Sadek, Aga Mir Muttaleb, Mohammed Sadek Arbab, Hajie Mirza Ali Askar, Hajie Seyd Mohammed, Sani-ul-Mamalek, Hajie Mohammad Hassan, and nine others.

SEC. XV. The certificates of shares to be as follows:

The bearer of this certificate, whose name and the number of the certificate are entered in the registers of the company, is a shareholder of the company for ———. When the yearly balance sheet of the company has been made out and presented, he will, on the distribution of the dividend, receive the amount standing to his name. When the yearly report is presented at a general meeting, the bearer, either personally or by deputy, has the right to be present and inform himself of the state of the company's business. If one of the founders of the company shall die whilst he is on the directorate, his heirs become surety for his responsibilities. The certificate is transferable on condition that the holder send particulars of the transfer to the head office. If the certificate be lost or destroyed, the directors hold themselves liable for the amount of the same.

SEC. XVI. Provided any shareholder should contract a loan with the company, if the amount of the loan should not exceed the sum of his shares, interest on a lower scale will be charged to his account than to that of the general public; but all in excess of his subscription will be on the higher rate.

SEC. XVII. The directors consider that in adopting the foregoing rules they will have sufficient direction in the management of the affairs of the company; but should further developments take place requiring amendments, they will be considered and added as a supplement. Should any shareholder desire to make suggestions as to alterations, the directors will be very glad to receive them, and, if they are in accordance with their views, will insert them in the rules.

Dated the month of Zeekadeh, 1318 A. H. (corresponding to the month of March, 1901).

MANGOES IN INDIA.

India is the home of the mango. They seem to grow everywhere in its tropical zone. They are found wild in the jungles and are highly cultivated in gardens and mango groves. The mango of Bombay is especially famous, and is one of the most highly prized of Indian fruits.

The genus belongs to the cashew family, of which we have in the United States a native representative in the "sumac." I believe there are some fourteen species known; some have been completely naturalized in the West Indies and other tropical countries. The most important species is the "*Mangifera Indica*" or "mango," the Indian native name, of which there are numerous varieties.

The tree is large and spreading, with leathery, lanceolate leaves and large terminal panicles of flowers. The fruit, like the apple of the temperate zone, varies greatly in size, shape, color, and flavor, being sometimes three or more inches long. The largest varieties weigh 2 pounds, but they are usually not larger than a goose egg. The mango is at first green, then becomes partly red or orange color. Beneath the tough skin there is in the better varieties a rich, fleshy, delicious pulp, in the center of which is a large, flat stone, to which the inner portion of the pulp is attached by coarse fibers, something after the manner of our clingstone peach. The poorer varieties are smaller in size, tough, and stringy, and are not edible, on account of their strong flavor of turpentine. One writer compares them to "a mixture of tow and turpentine."

The mango season commences in this part of India in May and June, just before the monsoon. The "Alfoos" (or Alphonso) is claimed to be the best variety of the mango. The finest sell in the Bombay markets at the beginning of the season at 4 rupees ($1.30) per dozen, and later drop in price one-half. The other varieties cost according to quality, some as low as 3 annas (6 cents) per dozen; in fact, "jungle mangoes" may be had for even less, but this wild kind is eaten by the natives only.

Inarching is the favorite system of improving the mango by grafting in Bombay.

The wood of the tree, together with sandalwood, is used by the Hindoos for burning. The bark possesses astringent properties, and when cut exudes a resinous and astringent gum. The natives make use of the leaves and leaf stalks in hardening the gum, and the undeveloped fruit (ground into a paste) is claimed to possess vermifugal properties. The seeds when boiled are eaten in times of scarcity of other food.

The fruit is sent from the West Indies in the form of a sweetmeat, but in that state the sweetness has displaced the flavor. The green fruit, pickled and highly spiced, has for some years been exported from India to England. Fresh mangoes, for the first time, have been exported in large numbers from Bombay to London during the present season. It is claimed that they not only reach their destination in fairly good condition, but are fetching fancy prices, being superior to the mangoes from the West Indies. The cast-off wooden boxes used by the Standard Oil Company in shipping case oil to India are utilized in this enterprise. This crude beginning promises to develop into a considerable trade.

I am shipping this week, in a specially made case with plate-glass top, twelve mango grafts of nine different varieties to an enterprising horticulturist at West Palm Beach, Indian River, Florida. This is the second shipment, the first being made at about this time last year, but, on account of the delays attending transshipments at London and New York, the grafts were about ten weeks in reaching their destination and were all dead on arrival. It is hoped better success will follow this consignment.

Almost all the fruits of the Old World are said to be improved by being transplanted in American soil. If the Bombay Alfoos mango can be thus improved, we shall have found a delicious fruit.

WM. THOS. FEE,
Consul.

BOMBAY, *June 14, 1901.*

MATCH TRADE IN INDIA.

No matches are manufactured in this country; they are all imported. The four countries in keenest competition for this trade are well known from the names printed on the familiar little safety-match boxes. Japan has, for the past six years or more, headed the list, with the Straits Settlements a close second and Belgium and Sweden following in the order named. The value of the match trade in India last year was nearly 40 lakhs of rupees ($1,300,000), of which these four countries supplied about four-fifths. The remainder was furnished by Germany, Norway, England, and other countries.

In the following table is given the imports by countries during the last three years and the total furnished by all countries each year:

Matches imported into India.

Country.	1898-99.		1899-1900.		1900-1901.	
	Rupees.		*Rupees.*		*Rupees.*	
Belgium	570,166	$185,304	481,744	$156,567	696,712	$226,431
Sweden	599,772	194,926	346,444	112,594	433,865	141,006
Japan	996,974	324,017	830,376	269,872	1,021,037	331,837
Straits Settlements	690,835	224,521	806,247	262,031	996,939	324,005
Other countries	940,147	305,548	1,011,127	328,616	835,920	271,382
Total	3,797,894	1,230,516	3,475,938	1,129,680	3,983,573	1,294,661

The great bulk of these matches consists of what is known as the "safety match." In the interior and away from large centers of population the natives have long been accustomed to the old-fashioned sulphur matches, and by force of habit still use them. However, outside of this, the matches in general use are the "safety." Sixty matches are put into each little box, which is stamped with the country of origin. Twelve of these boxes are wrapped in a blue paper-covered package; they retail in the bazaars of Bombay at 1 anna 6 pies (about 3 cents) per package.

WM. THOS. FEE,
Consul.

BOMBAY, *June 3, 1901.*

COPRA IN THE STRAITS SETTLEMENTS.

On account of numerous inquiries from the United States in regard to copra, cocoanut oil, poonac, and also an allied substance, vegetable tallow, I submit the following report.

Copra.—During the calendar year 1900, there was imported into the Straits Settlements 93,074,933⅓ pounds of copra, the import value of which was $4,455,489 Mexican. Of this, Bali Island sent about 24 per cent; Natunas, 17 per cent; Dutch Borneo, 16 per cent; Celebes, 11 per cent; the Netherlands Archipelago, 7 per cent; Sulu, 7 per cent; and Johore, 6 per cent.

During the same year, there was exported 91,160,026⅔ pounds of copra, valued at $4,416,937 Mexican* ($2,102,462). The following countries received the greater part: Russia, 39 per cent; France, 32 per cent; Italy, 10 per cent; Spain, 5 per cent; Germany, 4 per cent; Austria, 3 per cent; and Belgium, 2 per cent. About one-fourth of 1 per cent went to the United States.

Cocoanut oil.—Of cocoanut oil, there was imported during 1900 10,105,733⅓ pounds, the import value of which was $1,011,679 Mexican ($481,559). About 97 per cent of the oil came from Dutch Borneo, while 1 per cent came from Java and 1 per cent from Ceylon. During 1900, cocoanut oil was exported to the amount of 14,740,553⅓ pounds, the export value of which was $1,500,910 Mexican ($714,433). There went to Siam 30 per cent; to Sumatra, 15 per cent; to Penang, 7 per cent; to Selangor, 6 per cent; to Dutch Borneo, 5 per cent; to Perak, 4 per cent; and to Java, 4 per cent.

Poonac.—Of poonac, the refuse from copra after oil is expressed, no mention is made in commercial reports, but from private sources I learn that its sole use is for animal food.

Cocoanuts.—Imports of cocoanuts amounted in 1900 to $21,409 in Mexican currency ($10,191) and the export to $311,773 Mexican ($148,404)—showing a large local production. Commercial reports before me make no mention of price, but from the markets I learn that the ruling price is about $25 Mexican per thousand, which is about $1.20 gold per hundred, or 1¼ cents each. The nuts are about one-half larger than those offered in American markets. At the valuation given, the imports here would show about 856,360 in number, while exports show 12,450,920, the difference, 11,590,560, fairly representing the export production of the small island of Singapore. The actual number produced must be vastly greater, as the home consumption is enormous.

---

*$1 Mexican currency=47.6 cents in 1900.

Vegetable tallow.—Of vegetable tallow, imports during the year 1900 amounted to 52,533⅓ pounds, valued at $7,034 Mexican ($3,348), while exports amounted to 91,900 pounds, valued at $37,948 Mexican ($18,063). About 60 per cent of these imports came from Japan and the remainder from Burma; all was exported to Great Britain.

Shipping and freight.—As to shipping facilities and freight rates, I would say that Singapore is one of the most active ports in the world. During the year 1900, 14,034 vessels with a tonnage of 4,428,299 tons entered Singapore and 14,116 vessels with a tonnage of 5,430,885 tons cleared, making a total in and out of 28,150 vessels of 9,859,184 tons. For rates of freight, inquiry should be made at offices in any prominent port of the United States. About 68 per cent in value and tonnage of the shipping business of this district is done at Singapore, nine-tenths of the remainder at Penang, while Malacca does but little.

Imports.—The imports of this consular district (exclusive of treasure) during 1900 amounted in value to $255,290,650 Mexican ($121,518,349) and the exports to $225,854,514 Mexican ($107,506,748).

O. F. WILLIAMS,
Consul-General.

SINGAPORE, *June 12, 1901.*

QUININE AUCTION SALE AT BATAVIA.

The twelfth public auction sale of quinine was held at the Merchant's Exchange in this city on the 19th instant, and the following were the prices realized:

Editio II, consisting of 2,041.2 kilograms sulphate of quinine in 90 lots, each lot containing 22.68 kilograms; sold at 23 florins ($9.25) and 24 florins ($9.65) per kilogram (2.2046 pounds).

Editio II and III, consisting of about 750 kilograms sulphate of quinine, packing and weight at purchaser's option, in lots of not less than 22.68 kilograms, and not more than 25 kilograms; sold at 24 florins ($9.65) per kilogram.

The average price for Editio II—23.49 florins ($9.44) per kilogram—equals the unit price of 0.095 florin (3.8 cents) for the bark at Amsterdam. This has not been considered very satisfactory, as at the last sale of the bark at Amsterdam (held on the 13th instant), the unit price was 0.105 florin (4.2 cents).

The next sale is advertised for the 24th of July next, when some 4,600 kilograms of quinine will be disposed of.

B. S. RAIRDEN,
Consul.

BATAVIA, *June 22, 1901.*

DIAMONDS IN NEW SOUTH WALES.*

Diamonds have been found in Bingara district at seven different places and in Inverell district in fifteen different places; also at the Ruby tin mines on Vegetable Creek. In Bathurst district, diamonds have been found in four different localities; in Mudgee district, at fourteen different places; in Tambaroora and Turon, at six different places; and in Berima district, at eight different localities. Several of these diamond fields have been worked extensively with modern machinery. The diamonds are small; some are said to be of fine quality. In Cudgegong district, in the first five months of systematic washing, over 2,500 diamonds were discovered, and over 1,000 more were discovered afterwards, the largest being 5⅝ carats. The gems were mostly colorless, but some had a straw color, yellow tints, or tints of brown. Light and dark green and black were discovered. One or two opaque ones were found, and one of a dark-green color, with the appearance of having been polished with black lead. Black specks within the crystals were not uncommon. The weight of the diamonds averaged 0.224 carat.

In the Bingara diamond field, the diamonds average about five to the carat; the largest stone weighed 2⅝ carats, and more than 50 per cent of the diamonds are straw colored. It is estimated that in the Bingara district 12,000 diamonds were found up to 1887. In Boggy Camp diamond field (the most systematically worked of any in New South Wales up to 1886) 23,000 diamonds were found—total weight, 5,151 carats. The Inverell Diamond Fields Company holds 400 acres under lease. In 1895, the prospectors obtained from one load of wash 515 diamonds. In 42 loads of wash 600 carats of diamonds and 546 pounds of stream tin were found. At this place, there is a plant capable of treating 250 loads per week. It handled during the year 1898 1,300 loads of gravel, yielding 12,196 carats of diamonds; also a large quantity of stream tin, which nearly paid the cost of treatment. The output in 1889 was 21,830 carats of diamonds and 20 tons 18 cwts. of stream tin. The mine closed in 1900; total product, 37,400 carats of diamonds and 39 tons of stream tin. The largest stone found in these mines weighed 6½ carats; it is believed to be the largest diamond ever found in New South Wales. It was a straw-colored broken fragment of a crystal, from which it was estimated that the original stone may have weighed 15 carats. About a half dozen 3-carat stones were also found, but the average size was one-third of a carat.

The Elliot Diamond and Tin Mining Company recently started operations near the Inverell diamond field. The first washing is said to have yielded 3 carats of diamonds to the load, and over 40 pounds of stream tin. Many diamonds are picked up by prospectors, here and there, and find their way to Sydney, but the quantity is unknown. The jewelers who buy them have been accustomed to send them to Europe to be cut. They do not care to make a statement that might invite competition.

---

* Report made in reply to inquiries by a Pittsburg firm, which has received ADVANCE SHEETS.

I have written fully about the diamond fields, so that any party interested may be able to determine whether or not it is advisable to send a buyer to Australia.

ORLANDO H. BAKER,
Consul.

SYDNEY, *June 11, 1901.*

Output of diamonds.

Year.	Number.	Carats.	Value.			
			£	*s.*	*d.*	
1867-1885	12,000	2,856	2,952	0	0	$14,365.91
1886	23,000	5,151	5,151	0	0	25,067.34
1887	205	42	26	5	0	127.74
1888	(*)	(*)	(*)			(*)
1889		2,195⅝	878	0	0	4,272.78
1890		731½	335	0	0	1,630.27
1891		1,200	1,050	0	0	5,109.82
1892	2,285	457½	469	0	0	2,282.38
1893		15,000	15,375	0	0	74,822.43
1894		1,772¼	858	13	0	4,178.62
1895	4,100	1,313	492	7	0	2,396.03
1896		8,000	2,625	0	0	12,774.34
1897		9,189	3,250	0	0	15,816.00
1898		25,874	6,059	13	6	29,489.28
1899		26,403	10,349	12	0	50,366.33
Total		90,274⅞	49,871	16	6	242,669.32

*Not stated.

BAUXITE IN NEW SOUTH WALES.*

The occurrence of bauxite in New South Wales was not known until 1899, when it was recognized by the geological surveyor at Wingello, in the county of Camden, where he found it occupying considerable areas. Almost simultaneously, it was detected in extensive deposits in the Inverell and Emmaville districts. At Emmaville, in 1886, when a geological survey of the tin-mining field was made, it was found that 12 square miles of country were covered by deposits of laterite or volcanic ash, from a few feet up to 40 feet in thickness, and this material now proves to be bauxite and wocheinite, for it occurs both in the pisolitic and massive forms. In the Inverell district, also, it is known to occupy very considerable areas.

---

* Report made in answer to inquiries by a Massachusetts firm, which has received ADVANCE SHEETS.

Its mode of occurrence is similar in both districts; it is frequently roughly stratified, and is generally found capping small hills, in many cases surrounding points of eruption. It is clearly of volcanic origin; and while in some cases it appears to consist of volcanic ash, in others it may have been derived from the decomposition of basalt in situ. In color, the New South Wales bauxite varies from pale yellow to deep red. Near Inverell it has been extensively used for making roads, with satisfactory results.

With the exception of those near Emmaville, none of the deposits of bauxite have been mapped, nor has any definite attempt as yet been made to classify the ores on the basis of their alumina contents. A few samples of the ore of different colors have been submitted for analysis, and the results are tabulated below. It will be noticed that the proportions of alumina and iron are very variable, and that phosphoric acid and titanic acid are always present in greater or less amounts.

Analyses of New South Wales bauxite.

Locality.	Alumina.	Water.	Ferric oxide.	Silica.	Lime.	Magnesia.	Soda and potash.	Phosphoric acid.	Titanic acid.
	Per ct.	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Eastern end of portion 151, Parish Wingello, county of Camden.....	37.31	20.65	29.42	9.12	....	....	....	0.01	Present.
Center of portion 151, Parish Wingello, county of Camden.....	34.14	22.4	36.53	3.14	....	....	....	.088	Present.
Portion 19, Parish Bumballa, county of Camden	49.64	6.85	32.41	7.1	....	....	....	.153	Present.
Northeast portion 16.....	32.82	19.2	27.18	17.8	....	....	....	....	Present.
Parish Bumballa, county of Camden, 3 miles east of Barber's Creek railway station....................	34.07	12.78	42.21	16.24	0.36	0.18	0.28	.17	4.45
Southwest of portion 34, Parish Caoura, county of Camden.....	45.82	20.26	18.7	12.22	....	....	....	....	Present.
Portion 101, Parish Murrimbah, county of Camden................	61.46	30.77	1.9	1.9	....	....	....	.08	Present.
	39.47	23.68	31.55	1.3	....	....	....	....	Present.
8 miles south of Inverell......................	33.89	18.88	30.25	15.8	....	.14	.38	.19	.55
Warialda road, 9½ miles from Inverell...	41.68	26.34	24.18	4.1	....	.14	....	.23	2.05
Warialda road, 5 miles from Inverell...........	38.97	24.79	28.65	1.7	....	.18	....	.37	4.35
5 miles north of Inverell......................	31.43	20.38	27.06	15.01	....	.4	....	.34	4.98
Near Wingello...........	58.31	32.68	2.85	1.8	....	....	....	.66	2.4
	35.28	17.81	12.9	29.8	....	....	....	.19	2.65
	39.82	22.3	20.34	10.3	....	....	....	.56	5.5
Emmaville:									
Red ore..................	42.2	23.45	28.91	.16	.28	.37	.17	.26	4.75
Mottled ore...........	47.84	19.23	13.59	16.4	.74	.23	.2	.14	1.77
Yellow ore............	28.96	15.51	16.2	35.56	.5	.31	.2	.05	2.98

The location of the bauxite deposits is as follows: (1) Wingello, 105 miles from Sydney, on S. R. Railway, near Uringelly Creek; (2) Inverell, 468 miles north of Sydney (nearest railroad, 40 miles); (3) Emmaville, 463 miles north of Sydney (nearest railroad, 18 miles).

It is necessary to bear in mind that nothing in the shape of a systematic examination of the New South Wales deposits has yet been made, and therefore too much value must not be placed upon these analyses as representative of either their richness or poverty in bulk.

ORLANDO H. BAKER,
Consul.

SYDNEY, *June 11, 1901.*

AMERICAN TRADE IN SOUTHERN CHINA.

There are no American merchants in Canton, and there is no record in this consulate of any having registered at the other treaty ports within this consular district. This and the general unbusinesslike methods which have obtained here for many years make considerable work for a consul when he tries to prepare reports on existing trade conditions. The treaty ports (Canton, Swatow, Hoihow, Pakhoi, Wuchau, Samshui, and Macao) are, like the other districts of China, under the special supervision of the Chinese imperial customs, whose printed reports (emanating from the inspector-general of customs at Pekin, to whom they are transmitted from the customs commissioners at the various ports) are, as a rule, several months behind before being published. Their figures are reliable, but they lack the important details which tell merchants generally the market prices of the goods, etc., in the sale of which they are interested. The information accorded is so meager, so far as the purposes of traders are concerned, as to be to a certain extent valueless. The treaty ports are situated at considerable distances from each other. Between them, and at advantageous points for trading along the seacoast, are situated many flourishing towns like Fatshan, with populations ranging from 20,000 to over 500,000, in almost none of which has the American flag ever been seen. There is no fund available for the payment of a consul's expenses in traveling to and from those ports for such information relating to their commerce, industries, and resources as will enable him to prepare comprehensive and intelligent reports for the guidance and profit of intending exporters in the United States.

All the ports in southern China ought to be as open as the treaty ports, for through them an extensive trade can be done with merchants and others in the interior and in places that are at present well-nigh inaccessible for all commercial purposes; and at each of these ports there is every reason why enterprising American merchants should have representative and branch houses. "Why are there no such men here?" is a question that, in view of the energy and grit of our business men, as well as of the remunerative returns that await properly conducted business enterprises in this section of China, often occurs to those who travel here for pleasure or otherwise. If it pays the British, French, Germans, and Dutch to establish firms here, with large capital, why should it not pay Americans? Those nationalities practically control the trade of the treaty and other ports, and it is through them that our large importing houses are supplied with silks, embroideries, blackwood furniture, mattings, teas, rattan, grass cloth, tiger and leopard skins, jade, etc., the value of which yearly foots up an enormous sum of money.

Inquiries are frequent from American manufacturers and business men generally as to the possibility of the sale of their respective products and wares, the prices likely to obtain here, and the names of responsible Chinese or other firms as prospective customers. These inquiries are usually accompanied by illustrated and descriptive brochures, sometimes by leaflets, and often by trade journals, in which the goods are generously and profusely advertised. Chinese merchants do not see those advertisements, pamphlets, etc., and if they did they could not read them or understand their purport. The only importers who can understand them are the British, French, and Germans, who, naturally, give a decided preference to the goods consigned to them from their own countries, and will only accept American articles when their own can not meet them in price, demand, ingenious workmanship, etc. Proper samples, however, tell their own story and help a consul wonderfully in pushing trade, or rather in creating a demand which in time may become remunerative. I am about to set aside a part of the consulate for the public exhibition of all samples forwarded to me. At present, the space which I will be able to give for that object will necessarily be limited; but I hope in the near future to have ample exhibition room to accommodate all consignments, as well as visitors—Chinese and others. Lowest prices c. o. d. at the treaty ports ought to be affixed to each commodity, and its accompanying "literature" should claim no other than its real uses and merits; for, although the Chinese are inveterate equivocators, they trust the word of a foreign merchant until he deceives them. It is, of course, to be distinctly understood that no sales will be made or effected by me under any circumstances, my desire and purpose being simply to show American products to Chinese and other traders, to make this section of southern China a profitable market for American wares, and to bring American, European, and Chinese traders, merchants, and manufacturers into close business touch with each other.

This consular district comprises the provinces of Kwangtung, Kwangsi, and Yunnan, which cover a territory of 170,000 square miles, with a population of 80,000,000. The treaty and other ports to which I have referred are located in this district. The chief port is Canton, which has an estimated population of about 2,000,000, outside of considerably over 400,000 persons who live entirely on the sampans, lorchas, junks, flower boats, and other craft that throng the Pearl or Canton River. What will sell well or command a paying trade in Canton may fairly be relied on as sure of an equally good demand at any of the other ports, size of population and ease of access to the interior being taken into consideration.

All sorts of glassware for domestic, table, hotel, stationers', and other uses will find purchasers in Canton among the trading community if the prices quoted are low enough to tempt them to abandon the English, French, German, and Dutch products.

The Chinese have a liking for Americans and for American goods, but they can not be relied on to become steady customers of the latter unless at the outset the articles sold to them are supplied at a very low rate and of a good quality. Intending exporters should bear these points in mind, remembering the while that after they have established a trade they can safely advance prices, so long as the articles supplied continue of good quality. A deterioration in quality is soon noticed, with the result of an immediate and permanent rupture of commercial relations. In other words, once the Chinese become accustomed to the purchase of any commodity or ware, they will acquiesce gracefully in its gradual increase in price, but will resent emphatically and for all time the attempt to palm off an inferior article upon them. If the manufacturer or exporter will treat his Chinese consignee with this consideration always in mind, he will benefit by it.

Stoves (oil, wood, and coal) and cooking ranges of American make are frequently asked for; also sewing and knitting machines, washing machines, and wringers.

American whiskies and American wines, champagnes, clarets, etc., are rarely seen here. Our distillers and wine growers and producers have apparently almost entirely forgotten this immense field. Scotch and Irish whiskies and French, German, Spanish, and Portuguese wines of all brands largely monopolize South China—certainly all the treaty ports.

Woven and barbed wire fencing, with substantial, yet artistically designed iron supports or pillars, will meet a moderate demand.

With this commodity, as indeed with very many others, a substantial measure of success could not reasonably be guaranteed or even expected at the outset. Many wares can be aided materially by a consul's good word, but their intrinsic merits will have to be depended on to win in the long run.

Sprayers, especially for garden and lawn uses, and lawn mowers may be placed in the same category.

Insect exterminators—if really "exterminators" and free from poisonous ingredients—if placed in good hands, will prove remunerative.

The trade in plain and fancy biscuits of all kinds seems, like that in other marketable articles, to be left very much to British and German producers, and will bear cultivation.

Perfumery and fancy soaps will always find a ready market both among Europeans and the wealthy and middle class Chinese, the latter being particularly partial to perfumes.

Pure laundry soaps are certain of a ready sale throughout southern China, and a good trade can be established if our manufacturers will sell at an exceptionally low rate and be content with a narrow margin of profit at the outset.

Watches and clocks with the latest improvements can always push themselves.

Our condensed milks, canned fruits and vegetables, tinned meats, soups, and sardines are already showing a disposition to shoulder their competitors to one side. All preserves, jam; jellies, pickles, and prunes should be sold in glass jars with hermetically sealed tops.

Cork insoles have yet to be noted in these markets.

Samples of recently approved medicinal preparations—remedies for complaints and ailments incidental to tropical countries—should find their way here, to the certain ultimate advantage of both the wholesale houses and the compounders.

In all of the seven treaty ports, there is not a cold-storage warehouse. Any business man can at once see the pecuniary possibilities in that direction.

The pianos and organs sold here are almost exclusively of English make, and the trade in them is held by two Hongkong firms, which do an excellent business in renting them out at $12 Mexican per month.

Porcelain and porcelain-lined bath tubs are rarities. The tubs in use are large, glazed earthenware bowls, with a capacity ranging from 8 to 12 and 14 gallons. The bather seats himself in the bottom of the bowl with his knees almost on a level with his chin, and in that uncomfortable attitude makes his ablutions.

Outside of the high-class hotels, water-closets with anything like proper appurtenances are unknown. Coolies remove the night soil every morning from the covered receptacles, in which it is allowed to accumulate usually for twenty-four hours. The exhalations are nauseating, and in a climate like this, where the plague, cholera, and smallpox abound, dangerous to life and health.

Turkish towels, Turkish rugs, bath mats, and Turkish bath robes, at moderately remunerative prices, should command a fair market.

Launches run by vapor, gasoline, or any motive power except steam or gas, safe, clean, economical, powerful, and easy to work, even by inexperienced Chinamen, will find in time a strong demand.

Prepared paints, guaranteed to last at least five years in a tropical climate without peeling, blistering, cracking, or chipping, are needed; so, also, are folding-top writing desks, with plenty of pigeonholes, file boxes, capacious drawers, and the usual arm rests. In the same category are kitchen utensils of agate, nickel-steel, or enameled ware, warranted free from lead, antimony, arsenic, or other poisonous ingredient in the composition of the enamel.

Among the necessities are automatic water stills for distilling water for domestic use. There are no artesian or other wells, the water from the Canton River being used for all family purposes. As almost 500,000 Cantonese live on the sampans, junks, and house and flower boats on the Canton River—they are called "sea devils" by the Cantonese who live on land—it is obvious that the water taken from the river for drinking and household purposes must be impregnated with the germs of typhoid and other dangerous diseases. Hence the necessity for really good water stills, which ought to find a ready and profitable market.

Hair, husk, and similar mattresses get lumpy and lose their shape after a short use in exceedingly hot and damp climates like those of Canton and the other treaty ports. Knitted or elastic felt mattresses that are nonabsorbent, can be easily cleaned, afford little chance for vermin, and have the added merit of cheapness have not yet reached these markets.

Iron bedsteads fetch large prices. Small double ones, without any brass top ornaments and accompanied by a common woven-wire spring mattress, cost from $50 Mexican upward. In the United States, the same could easily be bought in retail stores for from $8 gold upward. Ordinary brass bedsteads with the same sort of common spring mattress sell for $150 Mexican and upward. Of course, it must be remembered that these beds are supplied with iron or brass rods at the tops from which mosquito curtains or canopies depend—an essential in places where mosquitoes are as numerous and vicious as here.

Hair and clothes brushes are in demand, as are also good refrigerators especially suitable for the Tropics, well equipped with shelves and arranged so as to keep the meats, fruit, etc., fresh and sweet smelling; supplied with water trap to catch waste water; easy to keep clean, and economical in amount of ice used. Refrigerators that become moldy or musty after short use should not be shipped here, because they will destroy the market for the superior article.

ROBERT M. MCWADE,
Consul.

CANTON, *May 15, 1901.*

Principal articles of import from foreign countries and Chinese ports during the quarter ended December 31, 1900.

Article.	Canton.	Swatow.	Pakhoi.	Samshui.	Wuchau.
Cotton goods:					
Shirtings—					
Gray..........pieces...	23,001	25,970	3,310	3,633	66,109
White..........do......	30,454	47,345	4,110	3,688	70,184
Dyed—					
Plain..........do......	2,698	2,900	113	....	8,248
Figured..........do......	2,572	1,681	706	....	1,024
T cloths..........do......	7,827	10,398	6,780	2,459	10,818
Drills:					
English..........do......	3,200	183	....	....	....
American..........do......	....	123	....	....	....
Chintzes and furnitures..........do......	6,842	....	261	....	576
Damasks..........do......	596	....	721	....	2,441
Velvets..........do......	801	673	314	....	1,474
Cambrics and muslins..........do......	4,252	863	640	....	10
Handkerchiefs, cotton and cambric, dozens..........	8,847	....	1,002	240	3,243
Woolen goods:					
Camlets, English..........pieces...	1,879	531	89	399	142
Lastings..........do......	212	100	37	....	356
Long ells..........do......	200	899	1,038	....	6,649
Spanish stripes..........do......	1,029	245	....	....	32
Cloth (broad, medium, and habit), pieces..........	360	346	84	....	127
Lusters..........pieces...	790	....	21	....	....
Blankets..........pairs...	1,031	....	385	....	476
Union cloth..........pieces...	222	....	....	....	....
Flannel..........do......	6	....	....	....	....
Metals:					
Iron—					
Nail-rod and bar..........pounds...	34,666	402,132	66,400	149,466	537,866
Old..........do......	....	1,123,200	242,133	....	14,133
Tin—					
In slabs..........do......	1,600	412,533	....	....	....
Plates..........do......	19,466	....	....	....	....
Lead, in pigs..........do......	1,466	142,133	21,200	....	....
Nails..........do......	....	....	....	33,333	102,666
Steel..........do......	....	....	10,800	....	93,733

Principal articles of import from foreign countries, etc.—Continued.

Article.	Canton.	Swatow.	Pakhoi.	Samshui.	Wuchau.
Sundries:					
Clocks ... pieces					230
Coal, Tonkin ... tons	5,354	8,433			480
Flour ... pounds	6,914,966	2,235,466	271,866	444,533	52,666
Lamps and burners ... pieces			1,989		1,195
Mirrors with frames ... do			29,218		
Oil, kerosene—					
American ... gallons	1,980	160,000	40,000	15,000	240,330
Russian ... do			28,000	22,500	
Sumatra ... do		120,000	220,500	34,000	331,140
Wheat ... bushels	88,582				
Rattans, whole ... pounds		262,666		78,400	
Umbrellas—					
Cotton ... pieces			2,834		
Alpaca ... do			24		
India-rubber shoes ... pairs				635	988

Principal articles of export to foreign countries and Chinese ports during the quarter ended December 31, 1900.

Article.	Canton.	Swatow.	Pakhoi.	Samshui.	Wuchau.
Aniseed, star ... pounds			5,333		699,200
Bags ... pieces		722,047		1,039,984	
Bamboo ... pounds				54,266	
Barley ... do					21,066
Beans ... do					532,400
Brassware ... do	65,200				
Buttons, brass ... do	43,733				
Canes ... pieces	105,814				
Cassia ... pounds	331,765				
China root ... do	122,966				
China ware ... do	187,600	586,533			
Fans ... pieces	408,416	30,720		34,750	
Firecrackers and fireworks ... pounds	145,466	209,066		1,345,600	
Fish, dried and salt ... do			2,071,733		
Flour:					
Rice ... do		477,200			
Potato ... do		984,400			
Grass cloth, white and yellow ... do	6,000	12,132			
Lead, red ... do	163,333			13,866	
Mats ... pieces				4,661	
Matting ... rolls	30,599				
Medicines ... pounds	507,600		8,933		14,133
Nutgalls ... do	4,000				128,800
Paper:					
First quality ... do	226,666			420,666	6,000
Second quality ... do			8,933	52,266	
Silk, raw (white) ... do	635,066				5,466
Silk cocoons ... do	133			18,266	
Sugar:					
Brown ... do	9,989,600	22,535,200	3,078,600	8,566	433,466
White ... do	666	17,622,933	200,800		201,200
Tea:					
Black ... do	480,666	179,600			
Green ... do		13,200			
Tobacco:					
Leaf ... do	234,800		172,933	136,400	
Prepared ... do	582,133	827,333	4,800	250,533	
Tallow ... do		29,733			45,733

Wholesale prices of the principal articles of import into Canton.

Article.	Price.
Shirtings:	
Gray—	
Indian ... per piece...	$3.00
Japanese ... do......	3.00
Hupeh ... do......	6.00
White—	
English ... do......	4.80
Indian ... do......	4.50
Japanese ... do......	3.30
Hupeh ... do......	6.00
Dyed—	
Indian ... do......	4.80
Japanese ... do......	4.20
Hupeh ... do......	3.90
T cloth:	
32-inch—	
English ... do......	3.00
Indian ... do......	2.85
Japanese ... do......	2.55
36-inch—	
English ... do......	3.90
Indian ... do......	3.90
Japanese ... do......	3.90
Drills:	
English—	
30 yards ... do......	4.05
40 yards ... do......	5.10
American—	
30 yards ... do......	4.80
40 yards ... do......	5.55
Chintzes:	
English—	
30 yards ... do......	4.65
40 yards ... do......	5.70
American—	
30 yards ... do......	4.88
40 yards ... do......	6.00
Printed twills ... do......	4.37
Furniture chintzes ... do......	3.00
Cambrics:	
12 yards ... do......	1.11
24 yards ... do......	2.15
Lawns:	
12 yards ... do......	1.35
24 yards ... do......	2.40
Turkey reds ... do......	2.90
Muslins:	
12 yards ... do......	1.42
24 yards ... do......	2.57
Cotton damasks ... do......	4.69
Velvet ... per piece...	$10.05
Printed ... do......	10.25
Camlets:	
English ... do......	18.00
Dutch ... do......	25.50
Imitation ... do......	6.20
Lastings ... do......	13.50
Long ells ... do......	7.80
Spanish stripes ... do......	21.00
Cloth:	
Broad ... do......	48.00
Medium ... do......	30.00
Habit ... do......	25.50
Flannels ... do......	22.80
Blankets ... per pair...	5.55
Japanese ... do......	4.05
Handkerchiefs:	
Cotton ... per dozen...	.77
Cambric ... do......	.46
Japanese cotton ... do......	.51
Iron:	
Nails ... per picul...	3.90
Bars ... do......	4.80
Tin:	
In slabs ... do......	44.25
Plates ... do......	9.00
Lead, in pigs ... do......	7.50
Quicksilver ... do......	187.50
Wax:	
White ... do......	117.00
Yellow ... do......	52.50
Japanese ... do......	22.50
Ginseng:	
American—	
Clarified ... do......	510.00
Crude ... do......	405.00
Korean—	
First quality ... do......	5,100.00
Second quality ... do......	2,587.50
Japanese—	
First quality ... do......	300.00
Second quality ... do......	127.50
Unclassed ... do......	108.00
Coal:	
Tonkin ... per ton...	12.00
Japanese ... do......	11.25
Kaiping ... do......	13.50
Native ... do......	10.50
Kwangsi ... do......	9.75

CHINESE TRADE IN 1901.

Under date of June 19, 1901, Mr. Squires, secretary of legation at Pekin, transmits statistics of Chinese trade from January to March, 1901. He says:

In the first quarter of 1900, the Boxer movement was gathering strength for the storm which soon followed, but the foreign trade of China had not as yet been seriously interfered with by the troubles in the north.

The returns for the first quarter of 1900 show an increase of about 1,000,000 taels* ($720,700) over the first quarter of 1899; but notwithstanding the country was still suffering from the bad effects of the war, the revenue collected during the first quarter of 1901 is only a million less than 1900 and a trifle more than for the same quarter of 1899.

Out of twenty-eight treaty ports, eighteen show an increase over last year. The ports which report a falling off are Shanghai, Tientsin, Hankau, Kiukiang, Wuhu, Hangchow, Wenchow, Fuchau, Amoy, Swatow, and Kiungchow. The total for 1901 (the January-March quarter) was 4,361,337 haikwan taels ($3,362,591); in 1900, 5,395,032 haikwan taels ($3,888,200); and in 1899, 4,325,297 haikwan taels ($3,120,376).

While the general decrease in trade has not been as great as might be expected, American cotton interests have especially suffered, as is shown by the following figures:

Article.	1901.	1900.	1899.
	Pieces.	*Pieces.*	*Pieces.*
Drills	119,175	306,441	420,966
Sheetings	47,945	821,332	1,103,915

American kerosene oil has made a better record, and, as compared with Russian, shows large gains:

Description.	1901.	1900.	1899.
Kerosene oil:	*Gallons.*	*Gallons.*	*Gallons.*
American	5,708,160	4,231,250	3,328,758
Russian	2,429,330	7,859,720	3,076,920

---

*The value of the tael January 1, 1901, was 77.1 cents; on January 1, 1900, 72.07 cents; on January 1, 1899, 72.05 cents.

Unfortunately, it is impossible to trace in these customs returns all goods of American origin, and, excepting in a general way, it is difficult to ascertain to what extent our trade has decreased during the recent troubles. I have been informed by one of the largest importers of American goods at Shanghai that the Chinese merchants there have recently given large orders for American goods, especially cotton, and I have no doubt but that as soon as the negotiations are concluded, trade will be given a fresh impetus, and will in a short time make up for all that has been lost.

PROTECTION OF ROADS IN CHINA.

Mr. Squires, secretary of legation at Pekin, sends under date of June 11, 1901, translation of a note from Li Hung Chang, inclosing regulations for the control of the mounted patrol at several stations which it is proposed to establish along the road between Ching-ting and Paoting-fu.

This is the first step on the part of the Chinese authorities, says Mr. Squires, toward the protection of foreigners traveling through the disturbed districts of the provinces of Shansi and Chihli, and ought to give great satisfaction to our people whose interests make it necessary for them to travel there.

The regulations read:

MOUNTED PATROL ON THE ROAD BETWEEN CHING-TING AND TAI-YUAN.

(1) Within a short time the railway will be opened to Ching-ting, and foreigners going into Shansi from the east will start westward from Ching-ting; Ching-ting, in Chihli, therefore, will be the first station. The district city, Huo-lu, will be the second; Ching-hsing district city, the third; Pai-ching-i, in P'ing-ting Chou, Shansi, the fourth; Ping-ting Chou City, the fifth; Ts'e-shih-i, in the district of Shou-yang, the sixth; the district city of Shou-yang, the seventh; Shih-t'ieh Chen, in the district of Yu-t'zu, the eighth; and Tai-yuan, the ninth.

(2) A bannerman will be appointed to the general command of the cadets and soldiers at the nine stations. Each station will have one cadet for the military school and ten mounted men. The cadets will wear a uniform having a dark purple velvet border. They will wear winter hats. The mounted men will all wear dark-blue jackets and trousers, and on the right arm will have a badge, bearing in foreign letters the words "Shansi patrol" and a number. On the left arm they will wear a badge having in Chinese the words "Patrol of the Shansi office of foreign affairs for the protection of merchants" and a number. They will all be armed with hou-t'ang rifles. Each station will also have one mafoo and one scullion.

(3) There will be a French-speaking interpreter at the first station, and any foreigner wishing to go to Shansi will be requested first to visit the station and record his name and state clearly to what prefecture and district in Shansi he wishes to go, as well as the date on which he proposes to start. The cadet in charge of the station will at once send two mounted patrolmen to the stopping place of the foreigner, to remain there until he starts and to escort him on his way. The patrolman

should wait for the foreigner rather than the foreigner for the patrolman. Should one be starting from Shansi, he may go to the foreign office in Tai-yuan, or to any chou or district yamen along the route, and enter his name, and the Chinese official will direct the officer in charge of the station to send an escort of patrolmen.

(4) The escort will keep not more than 4 meters (Chinese, 1 chang and 2 feet) from the foreign traveler's cart, horse, or chair. The patrolmen will regulate their speed by that of the foreigner's cart or horse, and must not at their own will travel more rapidly or lag behind. On crossing a river or bridge or mountain ravine or any dangerous place, they must draw rein and travel cautiously and use extra care to protect the traveler. On occasion of any stoppage for rest, etc., they must suit the foreigner's convenience. When the foreign traveler stops over night at an inn, the responsibility for the care of his baggage will rest with the landlord of the inn and the local ti-pao. If the people of the place are curious and boisterous, the patrolman will inform the next station, to whom they hand over charge, and request them to send two patrolmen to stop with the travelers and prevent trouble. If the people gather about in their curiosity and cause annoyance, the patrolmen will, with amicable words, exhort them to disperse, and will not permit the annoyance or allow any boisterous shouting.

(5) On occasions of stopping for refreshment or sleep, if there be a station, the patrolmen will stop at the station; if not, they will stop at an inn, and will furnish their own food and the forage for their horses. If the foreigner offers to make them a present, they must not receive it. Any violation of this rule will lead to the discharge of the offender.

(6) Should any patrolman be lacking in vigilance or cause delays, the foreign traveler will take his number and report him to the cadet in charge of the next station, who will at once inform the Manchu commandant, that he may discharge him.

(7) No station will be permitted to keep a clerk, but the cadet in charge will himself do all the necessary writing (*Note*—i. e., keep his own entries of passengers and goods sent along). The patrolmen at any station will be under the orders of the cadet in charge, who will send them on duty in rotation and, when there is leisure, he will drill them in marching and rifle practice. Any patrolman guilty of the violation of these regulations, after investigation, no matter at what station, will be at once suitably punished by the cadet in charge.

(8) Any Chinese merchant who wishes to send silver into Shansi or Chihli, and who has no safe conduct (*Note.*—A reference to the custom of making an arrangement with highwaymen by which goods are transferred safely), may at any time apply at any station and the cadet in charge will, according to uniform custom, send two mounted patrolmen with rifles, according to the regular rotation of the station, to escort it; and the patrolmen will not be permitted to receive any reward. Other goods and travelers will not be escorted.

(9) Foreigners on arriving at any station are to be provided merely with an escort. Any carts, chairs, mules, or horses that may be needed, together with food at the inn, etc., the foreigners must provide for themselves.

(10) If foreign travelers, meeting with high wind or rain on the road, are compelled to stop over night at some intermediate place where there is no station, the escort will stop in the same place or close at hand, that they may be conveniently near for protection.

(11) After the imperial post shall have been established, packages of letters for Ching-ting and Tai-yuan will be forwarded once every three days. The cadet in charge of the station, after making proper entry on the record, will send one patrolman, chosen according to rotation, with all speed to the next station, wind and rain not being permitted to detain him. The mails of the imperial post being

of great importance, there must be no loss or delay, and it will not be permitted along the road to secretly break the seals of the packages.

(12) The patrol stations which it is proposed to establish are for the purpose of safely escorting Chinese and foreign travelers. The duty of seizing robbers and pursuing bandits, together with that of suppressing disturbances in any place, rests with the local officials and military authorities. The said station patrols are not charged with this responsibility, in order that they may devote themselves to their special duties.

INDUSTRIAL DEVELOPMENT IN JAPAN.

Although the Japanese have for several centuries been engaged in mining operations and have exported large quantities of copper and other metals, the iron mines of the country have remained undeveloped, while each year the imports of pig iron and of manufactured iron and steel goods have been very large. The following table shows the amounts imported, with values, for the past three years:

Year.	Quantity.	Value.
	Tons.	
1898	362,340	$9,706,668.51
1899	196,255	7,703,937.50
1900	342,941	15,769,107.60

The above does not include the expenditures of the Government for war vessels and arms, which in 1900 amounted to $8,345,993.70 and during the past ten years has aggregated $65,197,772.21.

During 1898, the output of iron from all the mines in Japan amounted to 26,234 tons, this being a little less than for each of the three preceding years, but more than for any year previous to 1895. The figures for 1899 and 1900 are not available.

It is believed that there are rich deposits of iron ore in northern Japan, Dr. Noro having estimated that there are deposits to exceed 75,000,000 tons within a radius of 60 miles from Ofunato. The ore is found in beds and veins, and contains a very large percentage of iron. The same district contains considerable amounts of sulphur and copper and some lead. The reasons assigned for the non-development of these mines are: (1) Want of mining and engineering experience; (2) failure of the work started by the Government in 1876 (owing to insufficient fuel for charcoal pig), which discouraged others from undertaking it; (3) the general economic depression now prevailing in this country.

Viscount Enomoto, retired rear-admiral of the Imperial Japanese navy, and Mr. Amenomiya have recently started a company known as the Ofunato Railway, Harbor Improvement, and Iron Works Company, Limited, having for its object the development of these mines. Their project includes the improvement of Ofunato Harbor (which is said to possess excellent natural conditions and is on the eastern coast a little more than half way from Tokyo Bay to the northern extremity of the island), the construction of 60 miles of railroad to connect the harbor with the main line of the Nippon Railway, the purchase and development of mines, and the building of an iron and steel foundry, machine shops, etc.

For this work they wish to raise a capital of 12,000,000 yen, or $5,976,000, to be used as follows:

	Yen.	
For construction of the harbor	1,500,000=	$747,000
For construction of the railway	6,000,000=	2,988,000
For iron and steel works	4,000,000=	1,992,000

They are anxious to secure the aid of foreigners in carrying on the enterprise, and to this end are willing to give aliens the opportunity of becoming stockholders, showing in this respect a more liberal spirit than the Japanese are usually credited with.

At present Yokohama is the most northerly harbor on the eastern coast of the principal islands of the Empire, and the promoters are convinced that Ofunato Harbor, with good railroad connections—such as their plan provides for—would become the center of an extensive commerce, which could not fail to yield a fair profit independently of the iron industry, and if sufficient capital can be procured they believe the iron industry can now be successfully undertaken, the other hindrances to its success having disappeared. Coal well suited for this work can now be obtained abundantly within easy reach of the proposed plant.

The investment of foreign capital in such enterprises has hitherto been greatly discouraged by the Japanese laws, which made it impossible for foreigners to own land and placed restrictions on their business operations that greatly increased the risks and decreased the profits of their investments. The mining laws have lately been amended so as to be much more favorable to foreign investors, and the hope is held out that within a few months the right to own land may be conferred on aliens. A writer in the Japan Times of April 28 is authority for the statement that by indirection aliens may even now become landowners. He says:

> Japanese law allows what is known as the juridical person—a species of fiction by means of which foreigners can, in a sort of side way, own land. This juridical personage, to whom attaches the right of owning land, must consist of two or more persons. A man and his wife can become a juridical person. In the case of A and B, who have become a juridical person, if one died and the place is not filled within a specified time, the property or the undertaking would be sold.

In this connection, the following résumé of an article which appeared in the Japan Daily Herald of May 31 may be of interest:

The Japanese Imperial Government, desiring to make the country independent of foreign aid in shipbuilding, railway construction, and the supply of military and naval requisites, has commenced work on a steel establishment, for which the Government treasury has appropriated $7,056,425. The works will cover an area of 225 acres, and lie close to the shore on an excellent harbor in the northern part of Kyushu, 10 miles distant from Moji. The grounds are connected by a branch line with the principal Kyushu Railway, and are situated close to rich coal fields. There will be three departments, each under the joint direction of two engineers, one Japanese and one foreign. The pig-iron department will be fitted with coke-oven and blast-furnace plants, the steel department with mixed Bessemer and open-hearth plants and a steel foundry, and the rolling-mill department with roughing-rail mill, large, middle, and small bar mills, sheet mill, and large and middle plate mills—this department including seven subdepartments. It is intended to fit each department with all needed appliances for doing the best work. About one-third of the appropriation has already been expended, but the time when the works shall go into operation is not named.

An iron foundry at Fukuoka, under the direction of Mr. Wada, is said to be very successful, and is turning out 100 tons of pig iron per day; and there are some very successful shipbuilding plants, but it is now necessary to import much of the raw material, and some of the fittings are manufactured abroad. The Government has also lately opened an iron foundry at Wakamatsu, imported a large blast furnace, and expects to turn out about 120,000 tons of cast iron per year.

Many undertakings requiring the use of thousands of tons of iron are being held in abeyance, awaiting the dawning of better times, or the influx of foreign capital. If this can be secured, there will be no question of an active market for all the iron the country can produce.

A Japanese company has already been intrusted with the construction of a railroad in Korea, and the Japanese are ambitious to become the center of supply for China and other oriental countries.

E. C. BELLOWS,
Consul-General.

YOKOHAMA, *July 1, 1901.*

ECONOMIC CONDITIONS IN JAPAN.

Minister Buck sends from Tokyo, July 8, 1901, copy of a report on trade in Japan, prepared at the British legation, printed in the Weekly Mail. It reads in part:

FOREIGN TRADE OF JAPAN FOR 1900.

[By Mr. Arthur Hyde Lay.]

The lamentable occurrences in China and the continuation of an unsettled state of affairs have acted as a check upon the rapidly expanding export trade of Japan, and her manufacturing industries have suffered in consequence. Moreover, the silk crop, upon which this country in the main relies to adjust the balance of its commerce with foreign countries, was a disappointment. With regard to the import trade, the indications in the autumn of 1899 were that the ensuing year would offer splendid opportunities for business. The result was that large quantities of goods were ordered from abroad, which appeared in the returns for 1900, and the year opened with a feeling of overconfidence in commercial circles. It soon became apparent, however, that the outflow of specie, which had already begun, was likely to increase, and that the large arrivals of commodities expected would find an increasingly stringent money market. These are some of the factors which have operated unfavorably upon the trade of Japan.

The scarcity of money available for mercantile purposes, with the high rate of interest, was much felt during the year under review. It may be pointed out here that unproductive expenditure, or expenditure on works only remotely productive, continues to bear an abnormally large ratio to the wealth and resources of Japan. It is true that a large part of such expenditure takes the form of wages paid within the Empire's own borders. The Japanese wage-earner, however, probably saves at present very much less, even in proportion to the amount of his income, than the European and American worker, and but little of the large wage expenditure in connection with defense works, armaments, railways, etc., goes to form capital in aid of production. Under these circumstances, the tendency to an excess of imports over exports and consequent drain of specie must continue to exist, and an adequate cash reserve can be maintained only at a sacrifice of ease in the money market by prudent limitation of the Government bank-note circulation and of credit facilities. The flotation of foreign loans can only afford temporary relief in this respect, and bearing in mind the improbability under the most favorable circumstances of any but a quite gradual increase in wealth derived from resources at present undeveloped, it is evident that the palliative of borrowing is one which should be resorted to with the greatest circumspection.

For the whole year, the excess of imports amounted to the large sum of £8,455,751. But everything points to a considerable diminution in imports in 1901. Of the goods which are accounted for in the customs returns, however, no small proportion, though sold on contract, have not been paid for, or else, having been brought out on speculation, have, in view of unfavorable markets, remained without purchasers. A considerable accumulation of goods at the open ports has resulted.

Iron foundry.

The Government iron foundry at Yuwata Village, Onga District, Fukuoka Prefecture, in Kiushu, did not commence operations at the contemplated time, namely, July, 1900. Nor has work yet been begun, though the establishment is well on its way to completion. A trial working of the smelting furnace was made in February with satisfactory results. One reason given for the postponement of initial operations is the scarcity of workmen available in consequence of the great demand for Japanese labor in connection with the Chinese crisis. So it seems likely that it will be well on in 1901 before the foundry will be actually in working order and engaged in the manufacture of rails and sheet iron. It naturally takes a long time to set in motion the machinery of an establishment of so extensive a nature, and the training of workmen will involve a considerable period. But once it is rightly started, experts consider that there is no reason why it should not prove a great success. Twelve Germans are employed on the works, and all the machinery for use there came from Germany. When completed, it is expected to give employment to 1,500 or 1,600 workmen. Provision is made in the budget for the financial year, commencing on April 1, 1901, for the establishment of works intended to be supplementary to those just referred to for the manufacture of iron and steel plates in connection with the naval arsenal at Kure. The object is, of course, of a military and not of a commercial nature, and the establishment is not necessarily expected to be a financial success.

Provisions.

Foreign food stuffs are more and more becoming a necessity for Japan. The yield of agricultural produce, while it fluctuates, does not undergo much permanent change, and the requirements of the people are growing. In 1900, the land under cultivation for wheat and barley was less than in the preceding year, but the harvest was a good one, owing to favorable weather conditions. Flour, meal, and starch, fresh eggs, condensed milk were all imported in much larger quantities in 1900 than during the preceding year.

Interesting as an illustration of the pronounced demand for luxuries which nowadays exists in Japan is the very large increase in the importation of articles which are classified as such by the customs. The wide-spread consumption of sugar is a case in point. The importation of sugar in 1900 was much greater than in the preceding year, but somewhat short of the returns for 1898. Most notable was the large quantity imported from Austria.

Industries.

Industries in Japan languished in 1900. Practically no new undertakings were set on foot, and from those interested in already existing ones, the complaint of lack of cheap capital was heard. When, as frequently happens, a company has to pay as much as 14 per cent for money to carry on affairs, it is small wonder that difficulty in continuing in existence is experienced. The great desideratum is the investment of moderately cheap foreign capital in Japanese enterprises, and many attempts have been made to secure or to offer foreign financial cooperation. So far, however, with one or two exceptions, nothing on a large scale has been done in the matter. As individuals, many foreigners are naturally holders of shares in Japanese companies, but concerted foreign investment has been rare. But schemes for the introduction of capital from abroad for various purposes are on foot and may lead to the success of many Japanese industries.

Customs duties.

Certain classes of goods are now exempt from import duty when imported for the purpose of improvement, provided that they are reexported within one full year from the date of their importation. The idea is said to be to import, for example, plates from France and have them decorated so as to resemble Kutani ware, and watches from the United States to be enameled at Nagoya and reexported.

Abolition of conventional tariffs.

A suggestion that the treaty powers interested should be approached with a view to the immediate abolition of the conventional tariffs in spite of their comparatively recent conclusion was made by a journal of much weight in Tokyo. In exchange, it was proposed to grant to aliens the right to own real estate in Japan. Until these tariffs were done away with, it was felt that Japan had not in reality received tariff autonomy, nor could an increase of revenue be obtained at will from customs dues. From what has transpired, it can be gathered that the attitude of public opinion in Japan is favorable to a higher customs tariff than is now in force.

Exports.

The export trade of Japan for the year 1900 was larger than that of all preceding years, with the single exception of 1899. Considering the abnormal conditions it had to face, this result can not, therefore, be deemed altogether unsatisfactory. The chief reasons for the decrease in exportation as compared with the year before are the inactivity in the raw-silk trade, the setback to the cotton spinning and manufacturing industries, for which the Chinese crisis was largely responsible—bringing down as it did the returns of manufactured products—and the indifferent rice crop of 1899–1900, which left a comparatively small surplus for foreign consumption. Silk, tissues, camphor, copper, sulphur, and timber contributed to swell the volume of exportation.

Cotton spinning.

The cotton-spinning industry in Japan has been in an embarrassed condition for the past three and a half years. The evil results of the tendency to over-expansion after the China-Japan war, above all lack of sufficiently large capital funds, are acutely felt. The year 1900 was in particular a very bad year for cotton spinning in a country which finds the principal outlet for its yarns in China. It must not be forgotten, too, that the Japanese mills have been running for some time, and that their machinery is becoming worn out. A German company is rumored to have been formed, with a capital of 5,000,000 yen, to engage in cotton spinning in Japan.

Coal.

While the dullness in the manufacturing industry caused stagnation in the coal market at home, the great demand for coal for the numerous men-of-war and transports assembled in the Far East by reason of the expedition to China stimulated the exportation of the mineral from Japan. Indeed, the coal industry alone may be said to have profited by the situation in China. About the end of the year the stocks at Moji were estimated at not more than 250,000 tons. Hongkong, British India, China, and the Philippine Islands were the chief consumers of Japanese coal in 1900.

Trade with the United States.

The United States continues to encroach on spheres of trade which were formerly considered under the exclusive control of the United Kingdom or other nations. American competition is now a permanent feature of the import trade of Japan, and is worthy of the careful attention of British manufacturers. The geographical situation of the United States with regard to Japan and the eagerness with which American manufacturers are seeking a market in this country will make her a competitor more and more formidable as time goes on. In 1900, Americans again secured a number of valuable contracts for the delivery of goods in 1901, including one for rails, which was estimated at £72,000. Among the reasons for the very large figures to which the import trade from the United States into Japan rose in

1900 was the fact that the extensive orders, the execution of which was undertaken there in the preceding year, included 20,000 tons of rails, which at the high price then prevailing would account for, say, £160,000. A large quantity of electrical machinery for tram lines and electric lighting and bridge work and wire, as well as flour, are also included in the returns. Telephone cable was at one time a United States monopoly, but now German makers are fulfilling large orders for it. British manufacturers, owing to the high prices asked for, have so far been unsuccessful in obtaining any contracts for this material.

Trade with China.

During the past few years there has been a remarkable growth in the trade between Japan and China, occasioned for the most part by the opening up of markets for Japanese manufactures in the neighboring Empire. Cotton yarns, cotton tissues, matches, European umbrellas—in particular the first named—are the manufactures of Japan which most readily find purchasers in China. The crisis in China, which almost put a stop for a time to the commercial intercourse of the two countries, was a blow felt in an especial manner by those industries. Imports from China, too, naturally diminished in some cases, though the sum of them was greater than in 1899. The labor market in Japan was also affected by the withdrawal of numbers of coolies for service, not only with the Japanese troops, but also with the forces of more than one foreign nation.

Shimonoseki and Moji.

Shimonoseki and Moji exhibit signs of growing commercial activity. The Government iron foundry is only 6 miles from Moji. Wakamatsu Harbor, close by, is being dredged, and it is likely to become a busy place in three or four years' time, and may affect the prosperity of Moji. At present, vessels of only 12 feet can go alongside the wharf, but by means of dredging it is expected that vessels of 20 feet or so will suffer no inconvenience there before long. Wakamatsu has now one steam crane handling 1,000 tons a day, a hydraulic crane handling 1,500 tons, and a coal-loading machine (hydraulic) loading 2,500 tons a day. Two Brown's patent coal-handling machines obtained from the United States are being erected; these will deal with 6,000 tons of coal in ten hours.

Trusts in Japan.

There was some talk in 1900 of the formation of "trusts" in Japan to control some of the more important fields of industry, such as cotton spinning, clock and watch making, coal production, etc., but in most cases the proposed combination was not found to be feasible. A Tokyo journalist, commenting on the subject, has given it as his opinion that trusts are a failure in Japan for three reasons. In the first place, they are not founded on a strong basis; in the second, they suffer from lack of capital; and lastly, the credit of their promoters is unsound. In the case of coal, however, an exception is furnished to the rule, for the colliery owners signed in November a provisional agreement binding them to fixed rates for the sale of their coal.

Foreign capital.

One of the schemes whereby the Japanese are seeking to attract foreign capital is the granting to aliens of permission to hold shares in Japanese railway companies. It has been decided that there is no objection to the purchase by foreigners of such shares, provided that there exist no proviso to the contrary in the by-laws of a railway company, and the Department of Communications on June 5, 1900, informed eight of the private railway companies, by whom it had been approached on the subject, that they might, if necessary, alter their by-laws so as to open the door to foreign cooperation. Many of the Japanese railways have been built in sparsely populated districts more apparently with a view to military contingencies than with the prospect of adequate return for the outlay. In such of the railways, however, as traverse populous areas and connect towns of commercial importance, the investment of foreign capital would be mutually beneficial, more especially if the foreign shareholders were able to exercise their influence in the direction of greater efficiency of service and the reduction of useless expenditure.

JAPANESE TRADE IN 1900.

The year 1900 has been very unfavorable to the commercial and manufacturing interests of Japan, a variety of causes having combined to hinder the natural development of trade, and there have been many loud complaints of the dullness of the market and general stagnation. In spite of this, statistics show an increase in the total trade of the Empire over both 1898 and 1899, and only a small falling off in exports as compared with 1899, while there is a considerable increase as compared with 1898. The exports of 1899 exceeded those of 1898 by more than $24,000,000, an increase which it could hardly be expected would be maintained. The figures for 1900 show a decrease of less than $6,000,000 from those of 1899, and the greater part of this is ascribed to the Presidential election in the United States, which caused a marked decrease in the American demand for raw silk, and to the Chinese war, which seriously affected the exports of cotton yarn, these being two of the commodities in which the decline is most noticeable.

EXPORTS.

The total value of the exports from Japan in 1900 was $101,806,137, the principal articles and the value of the total export of each being as follows:

Tea	$4,444,352.65
Rice	1,781,131.52
Camphor	1,529,208.94
Copper	6,337,515.68
Raw silk	22,239,200.30
Silk tissues	11,415,259.11
Cotton yarn	10,253,452.82
Cotton tissues	3,027,835.64
Floor matting	1,648,400.73
Straw plaits	2,004,529.19
Porcelain	1,231,008.30
Lacquered ware	531,062.15

The United States takes each year three-fourths of the tea, nearly all the floor matting, and more than half the raw silk, besides a large proportion of some kinds of silk tissues. We are the largest purchaser of Japanese porcelain, and only Great Britain takes more of straw plaits, while in 1900 we, for the first time, used more of Japan's rice and camphor than any other nation. China, Korea, and British India use nearly all the cotton yarn and cotton tissues, and the greater part of the copper goes to Hongkong. Great Britain buys most freely of lacquered ware, and many of the less important exports, such as screens, manufactures of ivory, toys, carpets, and lily bulbs, while the United States leads in purchases of paper lanterns, fans, manufactured bronzes, toothbrushes, manufactures of bamboo, rugs, paper napkins, and sulphur.

The greater part of Japan's exports hitherto has consisted of raw materials, the largest item for each of the last three years having been raw silk, while the largest item of manufactured goods has been cotton yarn, which is shipped almost exclusively to China, a country noted, as Japan is, for cheap labor. The fact is significant as illustrating the inability of cheap labor to compete with machinery, and one of the most hopeful features of the situation in Japan is the recognition of this truth by her educated classes. Prominent lawyers, statesmen, and business men are beginning to agitate questions of policy with regard to labor, machinery, and foreign capital, and the agitation may be expected to bring about beneficial changes in the near future. It is reported that the Department of Agriculture and Commerce has decided to introduce a bill into the Diet providing for the establishment of a model silk workshop at Government expense to encourage machine weaving and give instruction in the method of preparing the silk, the object being to develop the silk-manufacturing industry and replace the present export of raw silk by exports of silk tissues.

The suffering entailed upon the cotton spinners by the Chinese difficulties is causing them to turn their attention to weaving. According to the Japan Times, there are now in operation 4,300 stands of power looms, with an output of 37,650,000 yards, or double that of three years ago.

IMPORTS.

Cotton.

Japan imports considerable quantities of cotton prints, cotton satins, cotton velvets, gray, white, and twilled shirtings, and cotton flannels, the greater part of which she might easily manufacture for herself, if the necessary machinery were introduced. Great Britain has the lion's share of this trade in cotton tissues in all lines except cotton flannels, in which Germany leads. America's share is very insignificant, and she is barely holding the proportion she has secured; but her exports of raw cotton hither in 1900 amounted to 74,189 tons, being nearly one-half the entire amount imported into Japan, and an increase of more than 35 per cent of the imports of this commodity from the United States in 1899. The raw cotton is here manufactured into yarn, for which China furnishes the principal market, and to a less extent into various kinds of tissues, for the use of the Japanese and for export to the countries of Asia, the Philippines, Hawaii, and Australia, while small quantities find a market in Great Britain, Germany, and the United States. The average price of the cotton shipped here last year from the United States was higher than that from any other country except Egypt, its total value being 27,010,134 yen, equal to $13,451,046.

Woolens.

The use of wool and woolen goods by the people of Japan is being steadily extended and increased, the imports in 1900 amounting to 3,837 tons of wool and woolen yarn, or nearly double those of 1898, and over 38,500,000 square yards of flannel and worsted cloth. The United States is not even named in connection with these fabrics, which come mostly from Germany and Great Britain.

Locomotives and other machinery.

America still holds her supremacy in Japanese imports of bicycles and tricycles, and leads in electric-light apparatus, mining machinery, paper-making machinery, watch cases, and watch movements, but is surpassed by Germany in clocks, weaving machinery, and sewing machines; by Great Britain, in fire engines and pumps, tools and implements of farmers and mechanics, photographic apparatus, locomotive engines, spinning machinery, steam boilers and engines, belting and hose for machinery, and turning lathes; by Belgium, in telephones; and by Switzerland, in watches. In all these except spinning and weaving machinery and watches, the United States stands second, and a comparison of the figures for 1900 and those of the previous years shows a very creditable increase of her exports to this country. As the people of Japan come to accept and act on the doctrine—already being taught by many of her most thoughtful citizens—that her future prosperity depends largely on the substitution of machinery for cheap labor, she will need to purchase this line of goods in greatly increased amounts, and the United States should be alert to receive her share of the growing commerce.

In 1900, Japan paid $665,558.47 for railway passenger and freight cars, more than three-fourths of which went to Great Britain; the United States, which ranked second, receiving only $69,236.83. Although railroads have been operated here since 1870, the first sleeping cars have lately been introduced, and on June 1, 1901, it is expected to add one dining car to each of four of the trains running between Tokyo and Kobé. This is a Government road, is the first in Japan to introduce dining cars, and was also the first to use sleeping cars.

Electric street cars are in use in Kyoto, and are constantly filled; are, in fact, so well patronized by the working classes that the wealthier people still employ the jinrikisha to avoid the crowding. An electric car line has been projected at Tokyo and at Yokohama, but work has not yet begun.

Metals.

In iron—pig and ingot, plate and sheet, galvanized and corrugated—iron screws, wire and small rod iron, steel, other than mild steel, and tinned plate or sheet, England still holds the lead; but in pig and ingot iron, Germany is gaining on her rival, less than half the entire receipts of this commodity being credited to Great Britain, whereas in 1898 and 1899 she had nearly three-fourths. In the other iron products named, her proportion continues nearly the same as in former years; but in bar and rod iron, in which she rivaled Belgium in 1898, she has fallen far behind, having less than two-thirds as much as that country, which leads in this product and in iron pipes and tubes. The United States stands first in Japanese imports of rails, fittings of rails, iron nails, electric-light wire, telegraph wire, and materials of bridges and buildings, sending more of each of the first three than all other countries combined, and being far ahead in the last two, in which she held second place in 1899. In iron pipes and tubes, she advanced to second place in 1899, and still holds it, with a largely increased proportion; but in the other iron products, she is retrograding rather than advancing.

In exports of brass tubes to Japan, England still leads and the United States is second; but since 1898, Great Britain has lost fully one-fourth of her trade in these articles, while our country has more than quadrupled hers. The same statements may be made of copper tubes, except that England has lost a smaller proportion of her trade in this article.

In pig, ingot, and slab lead, Australia has more than four times the trade of the United States, which again stands second, the latter country having a little more than reached the amount of her sales in 1898, while Australia has more than doubled her figures for that year.

With respect to mercury, Great Britain and the United States have reversed the relative positions they held in 1898, Great Britain now being first and the United States second, although, as compared with 1899, the former has lost and the latter gained.

Kerosene and other oils.

During 1900, Japan imported 67,842,324 gallons of kerosene oil, of which the United States furnished more than 48,000,000 gallons, at an average price of a fraction more than 11 cents per gallon. The remainder of the oil used here comes from Russian Asia and Dutch India and is bought at considerably lower prices.

Petroleum wells exist in the province of Echigo, in Japan, but they have never been fully developed. The Japanese have made some effort to turn them to account, but both experience and capital were needed to produce satisfactory results. The Standard Oil Company, of America, has lately obtained some concessions and commenced operations in the Umaya district. Five native companies have also been recently formed and have made borings at different localities, but it is yet too early to say with what result.

The United States is also the principal source from which Japan obtains lubricating oils and paraffin wax, more than 7,500 tons of the former and 2,000 tons of the latter having been shipped here from the United States last year. Of linseed oil, the United States sent only about 59 tons, ten times as much having come from Great Britain.

Paper.

Although Japan manufactures large quantities of paper for export, she imported more than 20,000 tons in 1900, of which Germany furnished the larger part in all kinds except cigarette paper and printing paper. Of the former France and of the latter Great Britain was the leading exporter, while the proportion from the United States was very insignificant, except in printing paper, and even in this she now holds fourth place, whereas in 1898 she stood first and in 1899 second.

Leather.

The imports of leather into Japan were greater by 60 per cent in 1900 than in 1899, and the United States still holds the lead in this commodity, with British India a close second. It is owing to her heavy exports of sole leather that the United States leads in this article; she sends much less than India of other kinds. The average price of other than sole leather shipped here from the United States in 1900 was 69 cents per pound, being nearly three times as high as that from British India or Australia, but exceeded by that from Great Britain and Germany. Very few of the common people of Japan wear leather boots or shoes, but the police, soldiers, officials, and many of the merchants have adopted foreign foot wear; and as the country contains little grazing land, the growing need of the people for this article must be supplied mainly from abroad. The import of hides, which come principally from Korea, now equals the total importation of sole and other leather.

Provisions.

In 1900, Japan imported over 3,600,000 cans of condensed milk, more than half of which came from Great Britain, while the United States furnished a little less than half as much as that country, but received therefor more than two-thirds as much as Great Britain received. The demand for this article is increasing, the importation for 1900 being two-thirds greater than for any previous year.

The imports of flour are also increasing rapidly, those of last year being more than double the amounts for previous years, and the United States is still far in the lead in this article, although Australia's quota was ten times that of any previous year. Here, again, the price of the United States' product is higher than that of her competitors.

The import of sugar, which fell off considerably in 1899, has increased again almost to the amount of 1898, when the Philippines were an important source of supply. With the pacification of these islands, this industry should be encouraged and developed beyond its former proportions, and the islands made a principal source for the supply of refined as well as of raw sugar.

Other articles.

Japan imported 1,082 tons of leaf tobacco in 1900, all except 200 pounds of which came from the United States. Importations of both leaf tobacco and cigarettes have decreased steadily and rapidly since 1898.

The United States also supplied over 14,000 tons of phosphatic manure to Japan, this being nearly one-half the entire amount brought into the country.

Japan imported 2,230 tons of cardboard, nearly two-thirds of which came from the United States, which country received for this item $114,987.61.

IMPORTS AND EXPORTS.

In 1898, the imports of Japan were greater by $28,000,000 than in 1897, but in 1899 they fell back nearly to those of 1897, this irregularity being caused by the enactment of a tariff law which occasioned overimportation in 1898, just before the law took effect. The imports of 1900 are $5,750,000 greater than those of 1898, the heaviest previous year. With the exception of 1899, there has been a steady increase each year for the past ten years, during which the total has been raised from $30,860,653.39 in 1891 to $143,079,743.26 in 1900. In the latter year, 21.9 per cent of the entire amount came from the United States.

For each of the past five years, the imports of the Empire have exceeded the exports to the average extent of $30,884,435, and the excess tends to become still greater each year, being more than $40,000,000 for the year under review.

BANKS.

Although the trade of the United States with Japan exceeds that of any other nation, she having nearly one-fourth of the entire volume of trade, there is no American bank in the Empire, and all business with the United States must be carried on through native or English banks. The Hongkong and Shanghai Bank and the Chartered Bank of India, Australia, and China—English institutions—have branches at Yokohama and Kobé, and do a thriving business. The Treasury Department of this Government lately published a report which states that the average annual rate of interest on fixed loans ranges, for the whole country, from 11.7 to 14.1 per cent, and for current loans is a little more than 1 per cent per month. The banks pay interest on time deposits at rates varying from 5 to 7 per cent per year, and on current deposits at an average of one-half of 1 per cent per month. An American bank with good connections in New York and San Francisco should, under skillful management, prove a paying investment for the stockholders, besides helping materially to extend and make permanent our Eastern commerce. The total banking capital of the Empire was reported at the end of March, 1900, as $257,848,966.48.

AMERICAN TRADE AND TRANSPORTATION.

Last year, the total exports to the United States amounted to $26,178,065, and the total imports therefrom to $31,265,075.85, making the entire volume of trade between the two countries $57,443,140.85. Of this amount, goods to the value of only $6,504,419.09, or a little over one-ninth, were carried in American steamers and sailing vessels, the British carrying fifteen times as much, or about five-twelfths of the entire trade of the Empire, while Japanese vessels did over one-third. The following table shows the number and tonnage of vessels from the United States and the three countries doing the most of the carrying for Japanese commerce:

Country.	Steamers.		Sailing vessels.	
	Number.	*Tons.*	*Number.*	*Tons.*
United States	135	311,180	28	28,852
Great Britain	1,542	3,739,154	48	80,650
Japan	2,645	3,363,657	614	56,951
Germany	392	1,030,768	19	38,146

FINANCIAL.

The total amount of gold and silver coin and bullion exported from Japan during 1900 was $28,240,117.40, to which there is a partial offset in imports of $5,735,881.88, leaving a net export of $22,504,235.52. The net export to the United States was $8,046,942.93, being more than enough to settle the trade balance with our country, although the total net export is only a little more than half the difference between the total exports and imports. For the first time in the history of our trade with Japan, the export of specie to the United States has been greater than that to any other country. It consisted chiefly of gold coin, with $13,592.50 in American silver coin.

On October 1, 1897, Japan changed from a silver to a gold basis. Fortunately for the country, the price of silver remained stationary for a considerable period at that time, and as the value of the gold yen adopted was equal to that of the silver yen previously in circulation, the change was accomplished without disturbing business or interfering with contracts. The transition did not injuriously affect the internal trade and proved very beneficial to foreign commerce with gold-standard nations, exchange being much steadier than before. During the past year, London exchange for bank demand drafts has varied from 2s. 0⅜d. to 2s. 0¼d. per yen, and American exchange has remained quite steady at 49⅜ cents per yen. The adoption of the gold standard has interfered somewhat injuriously with commerce between Japan and silver-using countries; but as this is less than two-thirds as great as her commerce with gold countries, the net result is in her favor. The circulating medium is the paper yen issued by the Bank of Japan, and at the close of 1900 a note issue of 215,000,000 yen was protected by a gold reserve of 66,000,000 yen. As the country produces very little gold or silver, fears have been expressed that it will be found difficult to maintain the gold reserve; but, although the commercial imports have exceeded exports each of the past five years, the general result of the movement of specie during that time has been to increase the country's supply.

WORKING OF THE NEW TREATIES.

The new treaties have now been in force for nearly two years and foreigners have suffered few of the inconveniences which they feared would follow this order. The most frequent complaint has been regarding customs regulations, and a recent inquiry by the Jiji Shimpo, a native newspaper, shows that there have been seventy-six appeals from decisions of customs officials, of which twenty-four have been decided in favor of foreigners and fifty-two in favor of officials. This indicates a disposition on the part of the Government to be fair, and the friction has probably resulted from inexperience, and not from a desire to injure or annoy the foreign importer.

Some complaint among foreign merchants has arisen by reason of the unsatisfactory working of the native courts. Unreasonable and vexatious delays in hearing and deciding cases have frequently arisen, and it is a common occurrence for a case to be adjourned for no other apparent reason than that one of the parties is not prepared with his evidence. The methods of pleading and rules of evidence and practice are not of a character to secure a speedy administration of justice, while the judges are underpaid and mostly inexperienced young men. In time, it is hoped that these defects will be remedied.

E. C. BELLOWS,
Consul-General.

YOKOHAMA, *June 7, 1901.*

Trade of Japan with principal countries.

Country.	Exports.	Imports.
United States	$26,178,064	$31,255,075
Great Britain	5,608,972	35,675,833
China	15,872,044	14,920,448
Hongkong	19,510,372	5,308,607
Germany	1,770,695	14,541,448
British India	4,334,750	11,711,142
France	9,536,910	4,031,717

GOLD MINES IN KOREA.

A concession covering a gold-mining district has been granted by the Korean Government to a French subject, Mr. P. M. Saltarel, in fulfillment of a promise made last December. The concession is similar to those already granted to Americans, Russians, Germans, British, and Japanese. It is for a period of twenty-five years from the date of commencement of operations, which must be made within two years. A royalty of 25 per cent net will be paid to the Korean Government after the expense of development has been recovered. No import tax on necessary materials will be levied, and the products of the mine will be exported free of duty. Other minerals besides gold may be mined within the district. The district has not yet been located, but it can not include any of the forty-three districts reserved for the Crown and known as the Household mines. The district must not exceed in extent 40 by 60 li (13⅓ by 20 miles). The concession is said to have no connection with a recently discussed project of a French subject to make a loan to the European Government.

Gold mining in Korea is now assuming considerable importance, since it has been successfully prosecuted by the Oriental Consolidated

Mining Company, an American concern which operates the Woonsan mines of Korea. This company has a district some 25 by 30 miles in extent in the richest known gold region in Korea. The company disposed of the 25 per cent royalty by paying a large sum in cash and agreeing to pay a fixed annual amount. It is now successfully operating two mills of 20 stamps each and one of 40 stamps, while another 40-stamp mill is in process of erection. The managers have their own cyanide plant as well. The operations at present are confined to quartz work, but the extensive placer deposits will soon be worked. Some seventy foreigners are employed at these mines, with over 3,000 natives on the pay roll or indirectly in the pay of the company. The natives are said to be satisfactory as miners, and they are content on a wage of 20 cents gold per day. The output and prospects are pronounced to be entirely satisfactory.

The British mines are at present the next in importance to the American mines. They lie not very far from the district occupied by the Americans and have long enjoyed a good reputation. Much money is being expended in exploitation, but they are too new to be out of the development period.

The Germans are actively engaged in working their district, which lies to the east of Seoul. The Japanese are opening up their mining district to the south of this city. The Russians seem not to have begun work upon their mining concessions as yet.

HORACE N. ALLEN,
Consul-General.

SEOUL, *June 17, 1901.*

LIVE STOCK AND FORESTRY IN EASTERN SIBERIA.

Commercial Agent Greener, of Vladivostock, June 5, 1901, sends translation of parts of a recently published book by E. T. Smirnoff, describing conditions in eastern Siberia, as follows:

CATTLE.

There is a great demand for horned cattle in this country. They are needed for beef, milk, and work. For the last, however, they are required only by immigrants from the Little Russian provinces and by Koreans. The former use Manchurian cattle; the latter, their own breed from Korea. These are the breeds slaughtered by Russians for beef; but cows for dairy purposes are continually coming from the Transbaikal province or from European Russia on steamers of the volunteer fleet. The red, the piebald red, and the piebald black cattle come from the southern districts of the provinces of Kherson and Ekaterinoslav. The Manchurian and Korean cattle are small—considerably smaller than the Russian. The weight of a Korean cow averages 8 poods (289 pounds) and that of a bull 10 poods (361 pounds). In Manchuria the cattle are raised under more severe conditions than in Korea, and they can consequently withstand inclement weather much better than the Korean cattle and would suit for work very well but for their wildness. The beef, however, is not palatable.

The cows of the Manchurian and Korean breed are never milked in their native country, and hence, notwithstanding the zealous work of Russian housewives, they yield very little milk. When crossed, however, with the Russian bulls, the second or third generation produces tolerably good milch cows. In the Maritime Province, there are several herds of fine dairy cattle. The number of cattle in the Amur and Manchurian provinces is 100,403.

PIGS.

Pigs in limited numbers are to be found in the villages of peasants, cossacks and Koreans. They raise the Manchurian breed. The animals never grow large or become fat; their meat is unpalatable, but they breed very fast. The total in both provinces is 45,637.

SHEEP.

Sheep breeding here has met with little success. The pastures are damp and covered with too rich a vegetation; the drier places are overgrown with bushes, and the sheep rub off and soil their wool while making their way among the dense vegetation. They also often fall prey to wolves or stray into marshy places and get infected with tapeworm.

In the Amur Province the sheep number 5,825 head, and in the Maritime Province 1,725.

FORESTRY.

Among the natural riches of the Amur country forests are considered the most important, for they cover nearly three-quarters of the whole area. There are a great variety of trees, and among the most important may be mentioned the following species:

The larch tree (*Larix dahurica*); the fir, two species (*Picea, Sibiricaff, P. ajanensis*); the cedar (*Pinus mandchurica*); the oak tree (*Quercus mongolica*); the maple tree (*Acer tegmentossum*); the lime tree (*Tilia mandchurica*); the ash tree (*Fraxinus mandchurica*); the elm tree (*Ulmus campestris*); the black alder tree (*Alnus glutinosa*); the black birch (*Betula dahurica*); the poplar (*Populus suaveolens*); the cork tree (*Phellodendron amurens*); the walnut (*Juglans mandchurica*); and the acacia (*Maackia amurensis*). Besides the above, here grows the yew tree (*Taxus baccata*), that is not to be found anywhere else in Siberia or European Russia, and the tree *Dimorphantis mandchuricus*, a tropical specie.

COTTON IN CENTRAL ASIA.

During the fiscal year ended April 1, 1901, the total amount of cotton shipped into European Russia via Krasnovodsk, on the Caspian Sea, was 6,467,567 poods (233,556,779 pounds), from the following districts:

District.	Quantity.	
	Poods.	*Pounds.*
Turkestan	4,851,283	175,189,532
Trans-Caspian	272,528	9,841,531
Bokhara	750,813	27,113,359
Hiva	334,199	12,068,594
Persia	258,744	9,343,763
Total	6,467,567	233,556,779

The production of cotton in Central Asia is increasing every year. The Government and the cotton consumers are assisting the planters to improve the cultivation, so as to compete with American cotton in European Russia. The planters have now almost learned to prepare the cotton by the American system, and receive very high prices. The seeds are imported from the United States.

The Russian consumers prefer to buy the Central Asia cotton, as it is packed in small bales, the same as Egyptian. I have been informed by some of the largest cotton consumers in my district, which is in the center of the cotton manufacture of Russia, that in time they will all avoid buying American cotton, in consequence of its being packed in large bales (the old system), since in the transportation of the same there is always a loss of from 8 to 10 per cent in weight. This is a very important question for American producers. The Russians have often made complaints, but no notice has been taken of them.

All American cotton is shipped to Russia through brokers in Liverpool and other ports, who are not interested in the proper packing and endure no losses in the transportation.

American producers should take immediate steps to remedy this evil, as Russia is one of the largest cotton-consuming countries in the world.

THOMAS SMITH,
Consul.

MOSCOW, *July 6, 1901.*

GRAIN CROP OF RUSSIA.

Reports from the great grain-growing districts of the Russian Empire have been extremely favorable during the entire season, both for winter and spring sown grain. It is the rule throughout Russia that from winter to summer the change is sudden, without gradual rise of the temperature. This year, however, there was a long interval, or, in other words, a spring. Rain has been abundant, and there are reports that some damage has resulted therefrom. Nevertheless, the harvest this year will be the largest for all cereals that this country has had for many years. The hay crop already saved is very large. Wheat, rye, oats, and barley, according to the most reliable accounts received, will give more than an average yield. The average annual output of these cereals from 1896 to 1900, inclusive, for the Empire (including Poland, the Caucasus, Siberia, and Central Asia, but excluding Finland) was:

Description.	Quantity.	Pounds to bushel.
	Bushels.	
Wheat	419,000,000	60
Rye	802,000,000	56
Oats	800,000,000	32
Barley	252,400,000	48

Wheat is the cereal which has most interest for the United States, as it comes more in competition with our grain than any of the others. It may not be without interest to show the quantity of wheat raised in the different parts of Russia:

	Bushels.
European Russia	303, 000, 000
Poland	20, 000, 000
Caucasus	48, 000, 000
Siberia	36, 000, 000
Central Asia	12, 000, 000
Total	419, 000, 000

THOS. E. HEENAN,
Consul.

ODESSA, *July 26, 1901.*

GERMAN GRAIN IMPORTS FROM RUSSIA AND THE UNITED STATES.

The following tables will give a clear idea of the extent to which Germany is dependent upon other countries for food stuffs:

Products imported into Germany from Russia and the United States for the years 1897 and 1900.

Description.	From Russia.		From the United States.	
	Quantity.	Value.	Quantity.	Value.
1897.	*Tons.*		*Tons.*	
Barley	487,974	$9,523,332	118,928	$3,270,000
Oats	414,238	9,868,912	96,009	2,116,494
Indian corn	71,828	1,247,834	976,034	15,099,196
Rye	610,741	13,227,326	142,997	3,301,298
Wheat	751,907	24,769,212	207,261	7,547,218
Total	2,336,688	58,636,616	1,541,229	31,334,206
1900.				
Barley	381,171	8,043,880	57,235	1,532,014
Oats	389,071	9,259,866	54,433	1,391,112
Indian corn	60,297	1,320,186	1,124,602	24,758,188
Rye	834,328	20,646,974	33,755	883,694
Wheat	278,196	8,673,434	455,934	14,432,082
Total	1,943,063	47,944,340	1,725,959	42,997,090

Products imported into Germany from Russia and the United States, etc.—Continued.

Résumé.	1897.	1900.
Barley	+$6,253,332	+$6,511,866
Oats	+ 7,752,418	+ 7,868.754
Indian corn	−13,851,362	−23,438,002
Rye	+ 9,926,028	+19,763,280
Wheat	+16,621,994	− 5.758,648

NOTE.—The plus and minus signs indicate how much more or less grain Russia exported to Germany than did the United States.

It will be seen that Russia sold Germany, in 1897, grain to the value of $27,302,410 more than did the United States. In 1900, however, the United States had reduced this excess to $4,947,250. In 1900, the total grain imports from all countries into the German Empire amounted to $126,284,972. Germany, on the other hand, exports small quantities of grain to countries like Great Britain, Holland, Denmark, Norway, and Sweden. These grain exports, during 1900, amounted to $16,610.

The competition between Russia and the United States to supply the nonproducing grain countries of Europe will become sharper every year. The building of new railroads and canals in Russia will enable that country to move her crops toward the German frontier much more easily than has hitherto been the case. Within ten years, Austria expects to have a network of canals finished, which will completely revolutionize the grain traffic of Austria-Hungary and the Balkan States. It is difficult to realize that barges of grain may be moved without transfer from the navigable waters of the Vistula and Dniester through the River Oder into the Upper Elbe, to the grain markets of Prague and Dresden; that the same is true of great cargoes of barley, corn, rye, and wheat from the countries of the Lower Danube. It will certainly give these countries an advantage in freight rates.

The only thing which will enable the United States in future to compete successfully with Russia in the grain markets of Germany is cheaper ocean freight facilities. The new line established from the Great Lakes to London and Hamburg is a step in the right direction. The future prosperity of the American farmer depends upon the ability to sell our surplus cereals to other countries, and Germany, with her 56,000,000 people, will always be one of the greatest grain markets.

ERNEST L. HARRIS,
Consular Agent.

EIBENSTOCK, *July 26, 1901.*

GERMAN METAL EXPORTS AND IMPORTS IN 1901.

The official statistics of Germany's import and export trade in iron, steel, and manufactures of both metals for the first six months of 1901 have just been issued and throw a highly interesting side light upon the present depressed, but courageous and hopeful, condition of the metal industries in this country. Any intelligent review of the present situation must begin with a frank recognition of the fact that the industries of Germany are traversing a period of extreme relapse and depression, of which the causes were perhaps inherent in the conditions under which they were developed, but the extent and duration of which are yet unknown.

In view of the general gloom and paralysis that pervade the industrial districts of Silesia and Westphalia, it has been somewhat surprising to find that the total exports of pig and merchant iron and manufactures of iron and steel during the six months ended June 30 exceed in quantity those of any previous year. The record by months is as follows for the years since and including 1898, the totals being given in metric tons of 2,020.46 pounds:

Month.	1901.	1900.	1899.	1898.
	Metric tons.	*Metric tons.*	*Metric tons.*	*Metric tons.*
January	147,261	116,100	126,401	120,931
February	136,720	120,755	126,193	119,298
March	173,860	127,955	135,002	146,343
April	159,953	115,969	125,572	146,527
May	187,233	134,962	126,887	143,520
June	189,377	128,483	129,376	149,909
Total for six months	994,404	744,224	769,431	826,528

There is therefore a net increase of 250,000 tons, or 33.6 per cent, over the exports of the corresponding period last year, against which is to be placed an equal and rather ominous decline in the imports of iron and steel, which were for the first half of 1901 only 233,690 tons, as compared with 502,150 tons during the same period in 1900, 350,894 tons in 1899, 219,917 tons in 1898, and 255,226 tons in the first half of 1897.

It is only when these figures are analyzed and compared in detail that their full significance becomes apparent. It is not a good sign for Germany when her pig-iron exports increase and imports decrease. In 1900, for instance, when the metal industries of the Empire were at the full tide of activity, the pig-iron imports during the first six months reached 355,123 tons, or 293,764 tons in excess of the exports for the same period, whereas the imports for the past six months were 159,995 tons, or only 103,084 tons in excess of the exports for the same period, which have remained almost undiminished. But this is not all. Not only has the importation of pig iron decreased, but, what is more significant, its home production in Germany, has seriously fallen off. From the reports of the Ironmasters' Union, it appears that the pig-iron output for the first half of the current year was 3,953,779 tons, against 4,098,957 tons for the same period in 1900, so that, adding this deficit to the loss in imports, we reach the fact that, aside from any increase which may have occurred in the stock of pig iron now on hand at the works, the consumption of that metal has declined from 4,345,321 tons in the first half of 1900 to 4,056,813 tons in 1901, a loss of 288,508 tons.

Aside from pig iron, the remaining exports of iron and steel and manufactures of both show the following comparison:

Exports, January 1 to June 30.

Articles.	1900.	1901.
Iron:	*Metric tons.*	*Metric tons.*
Scrap	19,378	47,795
Angle and structural	105,662	166,015
Railroad fish plates and metal ties	16,989	15,680
Rails	76,149	80,542
Bars	82,056	136,609
Plates and sheets	77,942	117,616
Wire:		
Raw	47,341	71,634
Galvanized	40,471	39,735
Heavy castings	69,180	66,847
Coarse manufactures	106,996	116,975
Fine hardware	20,750	21,927

All but two of these items show an increase over the exports of 1900. It is only when we inquire into the comparative prices obtained, and the conditions under which these exports have been made, that the shadow—whatever it may be—becomes apparent. It is stated upon what should be trustworthy authority that these increased exports represent not prosperity, but a dire necessity; in face of which German ironmasters, bereft of their usual market by the declining demand at home, were compelled to shove their growing surplus into foreign markets, to be sold for what it would bring. To what extent this is true, and what the actual loss, if any, has been, it is of course impossible to say, and this remains the unknown quantity in the equation. But from all that can be seen, the world's open market values of iron and steel manufactures are at least 30 per cent below what the same products have hitherto brought in the home market of Germany, where everything is controlled by syndicated industries operating in a protected field. These exports were distributed, in respect to destination, as follows: To England, 143,796 tons, against 77,338 tons in the first half of

1900; Belgium, 131,980 tons, against 80,784 tons; and Holland, 122,627 tons; likewise an increase from 87,112 tons the previous year. British India took 46,601 tons; Italy, 41,873 tons; Austria-Hungary, 41,345 tons; France, 39,073 tons; Argentina, 29,796 tons; Austria, 20,998 tons; Dutch East Indies, 20,309 tons; Japan, 19,760 tons; Chile, 6,513 tons; Canada, 6,486 tons; Egypt, 4,456 tons; and Mexico, 4,226 tons—all of which showed a notable increase over the totals of the corresponding previous half year. Switzerland took 72,589 tons, against 95,432 tons; and Russia only 53,691 tons, against 58,559 tons from January 1 to June 30, 1900, which shows that Russia is drawing her rails, structural iron machinery, and hardware largely from some country other than Germany.

The imports of machinery to Germany dropped from 81,607 tons during the first half of 1900 to 63,381 tons for the same period this year, a loss of 22.3 per cent, which is rather less than might have been expected, in view of the almost total suspension of factory construction, and shows how firmly the German demand for foreign—especially American—made machinery is established. As an indication of the wide range and variety of iron and steel exports from the United States to Germany, the imports of the first six months of 1901 from the United States are herewith given, divided into groups as classified under the German tariff:

Description.	Quantity.	Description.	Quantity.
	Met. tons.		*Met. tons.*
Pig iron	9,309.3	Paper machinery and scales	126.8
Heavy castings	1,430	Wrought-iron goods	145.8
Fine castings	131.4	Sewing machines:	
Coarse hardware	1,891	Power	300.5
Fine hardware	609.1	Treadle	672.6
Shears and other implements	74	Bicycles	63
Locomotives and locomobiles	118.7	Cutlery, fine	6.1
Agricultural machinery	15,078.7	Typewriters	46.6
Milling machines	12.8	Machine tools	1,671.8
Electrical machines	218.7	Pumps	144.5

In respect to agricultural machines—the most notable item in the exhibit—it is worthy of note that the entire import from all countries was 19,410.8 tons, so that more than three-fourths of the whole supply came from the United States, against 4,332 tons from all other countries, among which Great Britain leads, with a total export to Germany of 2,560 tons.

FRANK H. MASON,
Consul-General.

BERLIN, *August 5, 1901.*

METAL WORKERS' SCHOOL IN SAXONY.

An exhibit of the work done by pupils of the Metal Workers' School at Rosswein has been recently held in Freiburg, which showed the thoroughness of the instruction. The school has an average of sixty to seventy students. These pupils are chiefly from Prussia and Saxony, but all sections of Germany are represented, and even Sweden and Austria. One of the conditions of admission is that the pupil should have had three years' practical experience.

Many of the states of Germany are liberally aiding the school and granting free scholarships to worthy young men.

The school is provided with a technical library, reading and reference room, and has a large supply of scientific apparatus, electromotors, batteries, etc., and many practical models of buildings, machines, etc. Excursions are frequently made by the pupils to the large factories and mines of importance in the neighborhood. The course at the school lasts from one and one-half to two years and embraces four departments—building, fine arts, machines, and electrotechnics.

A great deal of attention is given to drawing. The student is taught to create, and, in order to stimulate the inventive faculties, the German patent office sends the institution, free of charge, copies of patents pertaining to mechanical, metal, and electric apparatus.

In addition to the special branches in metal work, etc., attention is also given to physics, chemistry, algebra, geometry, bookkeeping, and German language lessons.

The tuition fee for the semester, or half year, is 100 marks ($23.80) for citizens of the German Empire and 200 marks ($47.60) for foreigners, and an additional fee of 25 marks (for foreigners, 50 marks, or $11.90) for the use of apparatus, machines, and material.

The city of Rosswein has about 8,000 inhabitants and is situated on the main railroad line between Leipzig and Dresden.

E. THEOPHILUS LIEFELD,
FREIBURG, *June 26, 1901.* *Consul.*

THE PROPOSED NEW GERMAN TARIFF.

On the 17th of July, there appeared in a newspaper published at Stuttgart what was recognized as an authentic version of the new schedule of import duties on cereals, meats, and domestic animals that forms part of the bill for the revision of the German tariff law, which has been under discussion and preparation during the past two years. These duties on food materials revealed a general advance of from 50 to 300 per cent, and showed that notwithstanding the depressed condition of German industries and meager grain harvests, the agrarian plan for a general advance in duties on agricultural products had been thus far triumphantly carried. This aroused on part of the whole liberal, industrial, and commercial press such a storm of indignant protest that the Government deemed it wise to show what the new tariff act proposed to do for manufacturing interests, and the full draft of the act was therefore officially published on the afternoon of the 26th instant.

The bill, as now formally announced, is incomplete to the extent that the Federal Council has not yet completed its discussion of certain provisions, but it is accepted as it stands as embodying what the Government is willing to concede to the Agrarian party, which, by virtue of its numbers, compact organization, and determined purpose, exerts a dominant influence in the Imperial Parliament. Any changes that may hereafter be made in the draft that will be finally submitted for enactment will relate to minor details, and will not affect its general bearing on the import trade of Germany. The new law will take effect on January 1, 1904, so that between the dates of its enactment and enforcement there will be a period of probably a year or more, during which its provisions may be to some extent modified by concessions granted reciprocally in commercial treaties with other nations, which, as is expected, may be negotiated during the intervening period. In anticipation of this, and to insure the agricultural class against any serious surrender of the advantages which they are to gain through the new law, it opens significantly with the declaration (paragraph 1) that under no treaty or reciprocal agreement to be hereafter made shall the import duties on cereals be reduced below 5.50 marks ($1.30) per 100 kilograms (220.46 pounds) for wheat, 5 marks ($1.19) for rye and oats, and 3 marks (71 cents) for barley. After providing that duties shall be henceforth in most cases, as in the past, specific, and in all cases where the duty does not exceed 6 marks ($1.43) per double centner (220.46 pounds), the bill proceeds to lay down the rates of duty, which are grouped under nineteen categories, instead of the forty-three of the present German tariff, in which such important items as calendars, playing cards, and candles form separate groups in the classification. Of the whole schedule, as now presented, the following items will affect principally the import trade of Germany from the United States. In this synopsis are given under each head the present normal rate of duty; (2) the minimum rate to which the present duties have been reduced under special treaties with certain favored nations, and (3) the rates designated under the new statute. The rate is in all cases, unless otherwise specified, the net amount in marks and federal equivalent per double centner—*i. e.*, 100 kilograms, or 220.46 pounds.

Articles.	Present duties.		Treaty rates.		New duties.	
1. Cereals and food products:	*Marks.*		*Marks.*		*Marks.*	
Wheat	5.00	$1.19	3.50	$0.83	6.50	$1.54
Rye	5.00	1.19	3.50	.83	6.00	1.42
Oats	4.00	.95	2.80	.67	6.00	1.42
Barley	2.25	.53	2.00	.47	4.00	.95
Barley malt	4.00	.95	3.60	.85	6.25	1.49
Corn	2.00	.47	1.60	.38	4.00	.95
Flour	10.50	2.50	7.30	1.74	13.50	3.21
Oatmeal	10.50	2.50	7.30	1.74	16.00	3.80
Hops	20.00	4.76	14.00	3.33	40.00	9.52
Starch	12.50	2.98	12.50	2.98	16.00	3.80
Dried apples, pears, etc	4.00	.95	4.00	.95	8.00	1.90
Sausages	20.00	4.76	17.00	4.04	40.00	9.52
Meats—						
Pork	20.00	4.76	15.00	3.57	30.00	7.14
Other	20.00	4.76	17.00	4.04	35.00	8.33
Butter	20.00	4.76	16.00	3.80	30.00	7.14
Cheese	20.00	4.76	16.00	3.80	30.00	7.14
Eggs	3.00	.71	2.00	.47	6.00	1.42
Margarin	20.00	4.76	16.00	3.80	30.00	7.14
Cows and oxen per head	9.00	2.14	9.00	2.14	25.00	5.95
Young cattle do.	5.00	1.19	5.00	1.19	15.00	3.57
Hogs per 100 kilograms	5.00	1.19	5.00	1.19	10.00	2.38
2. Machinery, etc.:						
Locomotives	8.00	1.90	8.00	1.90	11.00	2.61
Locomotives above 10 tons	8.00	1.90	8.00	1.90	9.00	2.14
Steam locomobiles—						
Under 6 tons weight	...	...	...	...	9.00	2.14
Over 6 tons weight	...	...	...	...	8.00	1.90
Sewing machines—						
Treadle	...	...	24.00	5.71	35.00	8.33
Power	...	...	...	...	20.00	4.76
Bicycles	...	...	40.00	9.52	150.00	35.70

NEW RATES.

	Marks.
Electrical machinery, viz, dynamos, electric motors, converters, transformers, etc., for machines under 500 kilograms in weight, per 100 kilograms	9=$2.14
Same from 500 to 3,000 kilograms	7= 1.66
Same (more than 3,000 kilograms in weight)	6= 1.42
Machine tools for working metals, wood, or stone, steam and hydraulic presses, welding machines, mechanical hammers, as follows:	
250 kilograms in weight	20= 4.76
From 250 to 1,000 kilograms	12= 2.85
From 1,000 to 3,000 kilograms	8= 1.90
From 3,000 to 10,000 kilograms	6= 1.42
Over 10,000 kilograms	4= .97

Steam engines, turbines, gas and caloric engines, blowing machinery, pumps, portable cranes, pile drivers and power hammers, ice machinery, etc., range from a rate of $23.80 per 100 kilograms for machines weighing less than 40 kilograms each to $4.28 for machines between 1 and 2 tons in weight, and so on down to 83 cents per 100 kilograms for machinery weighing more than 100 tons each.

	Marks.	
Telegraphic instruments, telephones, electrical lighting and power-transmission apparatus, electrical measuring instruments, etc.	60.00=	$14.28
Motor, railway, and street cars	10.00=	2.38
Freight cars, open and covered	5.00=	1.19
Passenger cars:		
Not upholstered	7.50=	1.78
Upholstered	12.00=	2.85
Leather shoes weighing more than 1,100 grams (2½ pounds) per pair, rate per 100 kilograms	85.00=	20.23
Shoes weighing less than 1,100 grams per pair	120.00=	28.56
Rubber shoes:		
Unpolished	70.00=	16.66
Polished	100.00=	23.80

Under the new tariff, raw cotton, potatoes, and fresh fruits remain free of duty. Petroleum and its products, lubricating oil, paraffin, etc., are unchanged from the present rate—10 marks ($2.38) per 100 kilograms.

It will be seen from the foregoing that by far the principal and more important advances are in food materials, notably cereals, meats, and live animals. The increase in the present treaty rate of 3.50 to 6.50 marks (83 cents to $1.54) per 100 kilograms in the duty on wheat will affect most directly the United States, Argentina, and Russia, which countries exported to Germany, in 1900, 465,933, 479,928, and 278,195 metric tons of wheat, respectively. The advance on rye will affect principally Russia, which sold to Germany last year 834,327 tons of that cereal, against 21,906 tons from the United States. Oxen, hogs, and poultry come mainly from Austria-Hungary and Russia, and both those countries, it may be safely assumed, will negotiate treaties with Germany which under the new tariff will reduce the duties on all these products of Austrian and Russian origin to the minimum rates permitted by the new statute.

In respect to American manufacturers, the most notable advances made by the present bill are in the rates on shoes and bicycles, and these have been granted in deference to loud, long, and impassioned appeals from German manufacturers, who have professed to find the ruin of their industries in American competition. The increase of the import duty on bicycles and finished parts thereof to 150 marks ($35.70) per 100 kilograms will mean that an American bicycle weighing approximately 22 pounds (10 kilograms) will pay $3.57 import duty, instead of about $1.25, as heretofore. This will exclude cheap, low-grade wheels, but not good ones. Shoes which now pay from 10 to 15 cents per pair, according to weight, will, under the new schedule, pay approximately double those rates; but no one will expect that the now firmly established and growing American shoe trade in Germany will be destroyed or seriously impaired by an import duty of 25 cents per pair.

Public discussion of the measure is for the moment confined mainly to two points—the alleged inadequacy of the proposed duties on manufactured products, which, as usual, are far from satisfying the demands of interested parties; secondly and principally, the effect that the heavy advances in the duties on food materials will have upon the nonagricultural population of Germany. The resulting burden that would be laid upon the dwellers in cities and laborers in factories, railways, and mines will be readily apparent. From the Yearbook of 1900, it appears that the import duties paid on ten leading classes of food materials, including wheat, rye, barley, oats, cattle, hogs, meats, butter, cheese, and eggs, was 123,578,508 marks ($29,411,685). Assuming that the German harvests will be in future as bountiful as those of a year ago, and that no larger imported supplies will be needed, it is easily demonstrated that these food imports of 1900, if assessed for duty at the minimum rates proposed by the new law, would pay as follows:

Article.	Quantity.	Value.	
		Marks.	
Wheat (dutiable at 55 marks per ton)........................tons...	1,293,864	71,162,520	$16,936,680
Rye (dutiable at 50 marks per ton)..............................do......	893,333	44,666,650	10,630,663
Barley (dutiable at 30 marks per ton)........................do......	781,458	23,443,740	5,579,610
Oats (dutiable at 50 marks per ton)............................do......	462,351	23,117,550	5,503,977
Calves (dutiable at 15 marks each)...........................head...	58,484	877,260	208,788
Cows (dutiable at 25 marks each)...............................do......	135,630	3,390,750	806,998
Hogs (dutiable at 10 marks each)...............................do......	68,563	685,630	161,180
Meat (dutiable at 300 marks per ton)........................tons...	51,242	15,372,600	3,658,679
Butter (dutiable at 300 marks per ton)........................do......	16,636	4,990,800	1,187,810
Cheese (dutiable at 300 marks per ton).......................do......	16,645	4,993,500	1,188,453
Eggs (dutiable at 60 marks per ton).............................do......	118,170	7,090,200	1,687,467
Total..	....	199,791,200	47,550,305

An increase of 76,217,692 marks, or $18,149,810.

But this is of course only a part of the picture. The imports of cereals, meats, and other food stuffs, large as they are, are small in comparison with the home-grown supplies, all of which would be raised in market value more or less nearly to the extent of the increased duty rate, which is of course the result at which the agrarian tariff is principally aimed. It is not simply to restrict the imports, but to raise prices in the German grain and meat markets, that the new duties are demanded. These increased values, applied to the 22,300,000 tons of wheat, rye, oats, and barley which Germany raises in an ordinary year, and added to the enhanced duties which would have to be paid on imported food materials, would create a new burden, which, as the Berlin Tageblatt declares, would "revolutionize the whole economic, industrial, and commercial status of the German people, drive a large proportion of the laboring classes back to a diet of black bread and potatoes, diminish the productive strength of the nation and its consequent power of competition, and by provoking reprisals from agricultural nations like Argentina, Austria, and Russia—to say nothing of the United States—imperil the foreign markets for German manufactures, which have been to so large an extent the mainstay of the Empire's export trade."

Finally, the proposed measure contains, in paragraph 8, a menace of reprisals which may be taken in case of a war of customs duties. Says the text:

> Dutiable goods originating in countries which accord to German ships or merchandise less favorable treatment than is granted to those of other nations may be subjected to equal to double the ordinary rates, even to the full value of the merchandise. Goods free of duty may, under like conditions, be assessed to the extent of half the value of the merchandise.

In respect to grouping and classification of imports, the draft follows somewhat closely the model of the United States tariff law, and is far more clear and specific in grading different qualities of goods under leading heads than the present law, which it is intended to replace.

FRANK H. MASON,
Consul-General.

BERLIN, *July 27, 1901.*

GERMAN TRADE IN MUSICAL INSTRUMENTS.

The following is extracted from an article which recently appeared in the Zeitschrift für Instrumentenbau:

> The imports of musical instruments into Germany for the period from January 1 to April 30, 1901, compared with the same period of last year, show an increase in pianos, music boxes, and zithers; the other branches have remained about the same.
>
> The imports of pianos increased from 33.18 tons to 38.58 tons, of which France furnished 20.83 tons against 14.77 tons, and the United States 2.86 tons against 4.74 tons.
>
> The imports of harmoniums and organs amounted to 30.09 tons, 19.29 tons coming from the United States. The import of 15.32 tons of children's instruments is about the same as that of last year, Austria-Hungary furnishing 8.27 tons and France 3.75 tons. The imports of music boxes increased to 36 tons. Austria-Hungary furnished 11.46 and Switzerland 15.43 tons. The imports of accordions were 5.4 tons, Austria-Hungary furnishing 2.65 tons and France 1.21 tons. The imports of stringed instruments amounted to 17.86 tons; these instruments came almost entirely from Austria-Hungary. The imports of zithers increased from 6.5 tons last year to 12.57 tons for 1901, most of which came from the United States.
>
> The export of pianos increased from 4,152.25 tons for the first four months of 1900 to 4,385.61 tons for the same period of 1901. The export to Great Britain has

increased about 19 per cent; that to Norway, Russia, England, Sweden, and the Argentine Republic have fallen off.

The exports of harmoniums and organs have increased over last year by about 22 tons, this year's export being 152.12 tons. For these instruments, new markets have been found in the Netherlands, to which country 24.25 tons were exported. Austria-Hungary took 9.7 tons; Switzerland, 10.36 tons; Great Britain, 15.87 tons; and Russia, 23.48 tons. The export of music boxes amounted to 288 tons.

The decrease in the export of accordions is over 7.7 per cent, the total being 695.66 tons. The loss was mainly in the United States trade.

The exports of violins have fallen off from 99.09 tons to 93.03 tons. Those to the United States, however, show a material increase.

In other stringed instruments Germany exported 10.47 tons, against 11.02 tons last year; the United States purchased 3.86 tons, against 3.08 tons last year; and Great Britain, 2.43 tons, against 2.09 tons.

The export of zithers increased to 83.33 tons this year.

BRAINARD H. WARNER, Jr.,
Consul.

LEIPZIG, *July 11, 1901.*

UNITED STATES TRADE WITH GERMANY.

Ambassador White, of Berlin, under date of July 2, 1901, transmits the following official statistics of the foreign trade of Germany from 1891 to 1900, inclusive:

In 1891, the United States occupied fourth place in the import trade of Germany, with a total of $108,528,000, being preceded by Great Britain, with $160,888,000; Austria-Hungary, with $142,324,000; and Russia, with $138,040,000. In 1895, the imports into Germany from the United States rose to $121,618,000, and after that year increased rapidly until in 1900, when they reached the sum of $266,750,400. The United States thus stands far above any other country in this trade, being followed by Great Britain, with $199,920,000; Russia, with $173,740,000; Austria, with $172,312,000; and France, with $72,590,000. During this period, American imports into Germany have increased more than those of the last-named four countries together. As regards the export trade of Germany, the United States has occupied third place during this whole period. In 1900, the United States imports from Germany were to the value of $104,482,000; in 1899, $89,726,000; and in 1898, $79,492,000. Up to 1898, they showed a tendency to decline, amounting in 1891 to $84,966,000 and sinking in 1894, under the tariff of 1890, to $64,498,000, the lowest point reached. The first place in the export trade has been continually held by Great Britain (which is the only large country with which German trade shows larger exports than imports), the second is held by Austria-Hungary, and the fourth by Holland, though from 1896 to 1899, inclusive, this was held by Russia, which is now fifth. Within this period—1891–1900—there have been notable increases in Germany's exports to England (notwithstanding that since 1897 there has been no commercial treaty between these countries), to Belgium, Italy, Sweden and Norway, British India, Australia, China, and Denmark. The greatest relative increase has been in the exports to Japan, which have risen from $3,332,000 in 1891 to $16,660,000 in 1900.

GERMAN EXPORTS TO THE UNITED STATES.

Statement showing the declared values of exports to the United States from Germany during the fiscal years ended June 30, 1900 and 1901, respectively.

Whence exported.	1900.	1901.	Increase.	Decrease.
Aix la Chapelle	$1,241,550.69	$1,153,456.08		$88,094.61
Annaberg	1,866,785.29	1,835,128.52		31,656.77
Bamberg	642,856.89	748,518.51	$105,661.62	
Barmen	5,075,624.59	4,595,758.50		478,866.09
Berlin	6,977,324.62	6,615,592.34		361.732.28
Bremen	1,907,106.33	3,071,399.35	1,164,293.02	
Breslau	1,247,837.91	1,215,195.04		32,642.87
Brunswick	1,366,295.55	1,788,801.32	422,505.77	
Chemnitz	5,076,078.93	5,676,485.21	600,406.28	
Coburg	2,916,200.67	3,449,105.91	532,905.24	
Cologne	2,067,461.20	2,054,560.89		12,900.31
Crefeld	2,346,165.17	2,684,638.10	338,472.93	
Dresden	1,130,101.29	1,135,493.79	5,392.50	
Düsseldorf	1,137,791.33	1,095,981.55		41,809.78
Frankfort	6,931,408.87	6,787,660.36		143,748.51
Freiburg	1,272,040.55	1,296,337.97	24,297.42	
Glauchau	1,017,481.10	792,318.86		225,162.24
Hamburg	16,388,437.96	12,278,500.89		4,109,937.07
Hanover	1,204,859.92	830,293.61		374,566.31
Kehl	2,012,983.13	1,745,045.61		267,937.52
Leipzig	5,530,889.96	5,183,922.69		346,967.27
Magdeburg	6,990,471.96	10,415,082.00	3,424,610.04	
Mainz	1,872,749.48	2,002,204.76	129,455.28	
Mannheim	4,736,621.49	4,536,151.94		200,469.55
Munich	744,777.80	684,051.04		60,726.76
Nuremberg	3,751,261.55	3,860,933.43	109,671.88	
Plauen	2,188,494.72	2,700,049.08	511,554.36	
Solingen	1,416,751.34	1,333,530.98		83,220.36
Stettin	4,483,339.94	5,288,844.28	805,504.34	
Stuttgart	905,418.60	1,087,833.25	182,414.65	
Weimar	925,831.42	1,007,410.06	81,578.64	
Zittau	939,158.89	936,727.76		2,431.13
Total	98,312,159.24	99,887,013.68	8,438,723.87	6,863,869.43
Increase		1,574,854.44		

FRANK H. MASON,
Consul-General.

BERLIN, *July 20, 1901.*

BEAD TRIMMINGS IN EIBENSTOCK.

The Eibenstock dress-trimming industry is dependent entirely upon the prevailing fashion. No other article, perhaps, is subject to such fluctuations in trade. Exports to the United States of silk embroidered and beaded trimmings amounted to $155,500 for the fiscal year ended June 30, 1901. This is an increase of $13,100 over the previous year. English merchants buy about $475,000 worth of dress trimmings in Eibenstock each year.

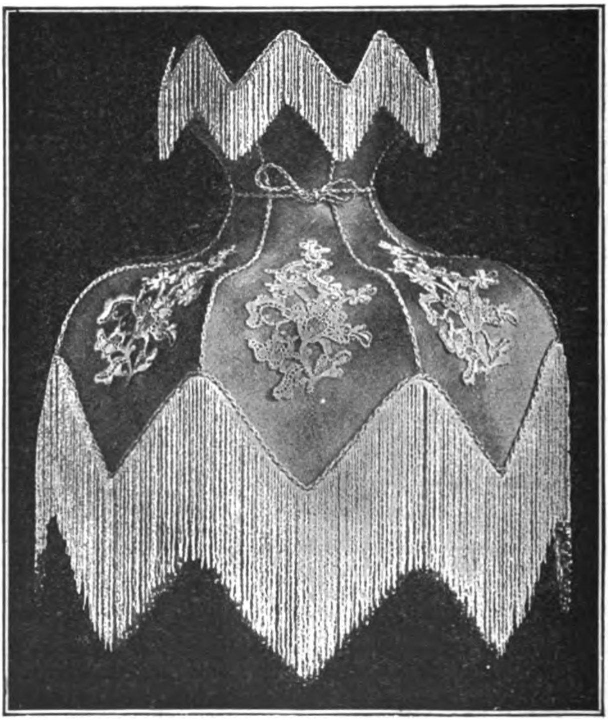


FIG. 1.

Competition has done much to reduce the export trade in this article. Machine-made dress trimmings can be produced in America to-day as well as in Eibenstock. It is only in handmade trimmings that the manufacturers of Eibenstock excel, and this field they are likely to hold undisputed for many years to come.

The manufacturers here have been trying for many years to establish the production of some article which will not be so dependent upon the caprices of fashion. The dealers in beads furnish the manufacturers with about $1,600,000 worth of this article each year. A. Wedell, one of these dealers, has introduced an article which promises to have a future. The same beads utilized in the production of dress trimmings are used in making and adorning lamp shades in many charming designs.

To American manufacturers and buyers, the accompanying illustrations may be of interest.

Figure 1 shows a lamp shade inlaid with pearls, with bead fringes. The shades are all hand work and are made in various sizes, ranging from 1½ to 2 feet in diameter.

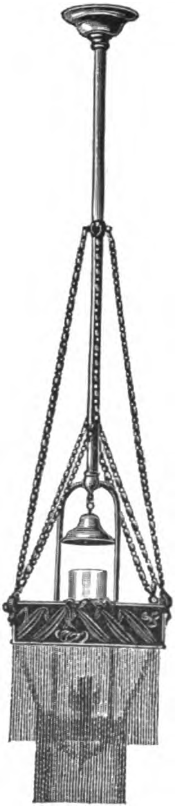


FIG. 2.

Figure 2 shows the application of beads to gas or electric light chandeliers.

ERNEST L. HARRIS,
Consular Agent.

EIBENSTOCK, *July 12, 1901.*

HIGH-SPEED ELECTRIC TRACTION AT BERLIN.

Through some misapprehension, there appeared in the American press about three months ago a paragraph in which it was stated that an experimental test of electric trains had been made on a new railway between Berlin and Hamburg, by which a speed of 125 miles an hour had been readily attained. This statement was widely republished, generally as the text of editorial congratulation that the problem of greatly increased speed in railway travel had been so promptly and conclusively settled. From this the deduction was easy and natural that within a few years the present steam railway system would be wholly superseded for passenger traffic by electrical lines. All this was so far from the actual fact, and has inspired such a chorus of vain but insistent inquiry, that it seems due and requisite that a plain, concise statement shall be made of what has been undertaken by the experimenters at Berlin, what has been accomplished, and what yet remains to be done.

For several years past, it has been recognized by scientific men in Germany, as elsewhere, that cars driven by electricity, which have practically displaced the horse car as a means of intramural and suburban travel, would sooner or later dispute the supremacy of steam railways for long-distance passenger traffic. The main governing motive for such a transformation would be the greatly increased speed that could thereby be attained. It was felt, however, that the high-speed problem involved many details of construction and practice concerning which comparatively little is known. No careful engineer or capitalist would enter upon the construction of a high-speed railway for actual service until the whole subject had been thoroughly studied and its feasibility proven by practical demonstration. For this purpose there was organized at Berlin, on the 10th of October, 1899, a so-called "Studien Gesellschaft," or "company for experiments," in high-speed traction. This company—which has for its president Dr. Schulz, chief of the imperial railway administration—includes as members the General Electric Company of Berlin, Messrs. Siemens & Halske, the great machine builders Börsig, Krupp, Halzmann, and Van der Zuypen & Charlier, besides several banks, which undertook to supply the capital of 750,000 marks ($178,500) for the necessary expenses of construction. The mere mention of the foregoing names will show that the Studien Gesellschaft represents the foremost scientific and mechanical ability of Germany. After more than a year of study and experiment with motors, conductors, and especially the task of taking up an electrical circuit by a motor moving at high speed, Director Rathenau, of the General Electric Company, in January of this year, had a formal interview with the German Emperor, in which he submitted a plan for using as an experimental electric line the military railway leading southward from Berlin to Zossen, a distance of 30 kilometers (18.6 miles). The proposition of Mr. Rathenau was promptly and fully approved, and from that moment the whole scheme has had the active support of the Imperial Government. The line to Zossen is now in process of preparation for the trials which, it is expected, will begin in August or September. For these experiments two motor cars will be, or have been, built—one by the General Electric Company, the other by Messrs. Siemens & Halske. Each will carry about fifty passengers, and efforts will be made to attain a speed of from 125 to 150 miles an hour.

Meanwhile, Messrs. Siemens & Halske have been making some preliminary tests on a short provisional line, which was built for experimental purposes a year or two ago, at their works at Lichterfelde, near Berlin. The motive of these preliminary trials has been to test the important, but hitherto undemonstrated, point whether a motor moving at a speed of 100 miles an hour or more will take the current readily from a three-wire line.

It is well known that there are certain electric roads in Switzerland and northern Italy where alternating currents of high potential are used, instead of the 500-volt continuous current which is employed on most city tramway lines. The high voltage is used for the purpose mainly of being transmitted on small wires over long distances from water-power generating plants. It is then reduced by passing through generators—located where the current is wanted—to a voltage considered safe and suitable for working the trains.

In using this three-phase alternating current, it has been found necessary to employ three conductors, viz, two overhead wires and a third rail. The high-speed experiments here will be based on this arrangement, and the provisional line of Messrs. Siemens & Halske has carried a step further the experience already gained by the Swiss and Italian roads at ordinary speeds, and yielded some highly interesting and valuable results.

This, then, is the present status of the enterprise. There is no electrical railway between Berlin and Hamburg, nor will one be seriously thought of until the high-speed experiments on the short line between Berlin and Zossen have demonstrated exactly and conclusively every condition of the problem. These experiments will be undertaken when the line to Zossen is specially prepared and the two motor cars now being built for that purpose are ready. That these preparations are not yet complete is shown by the fact that the Society of British Engineers, which visited Berlin a few days ago as guests of Messrs. Siemens & Halske, saw the provisional three-wire testing installation at Lichterfelde, as well as the motor car built for the coming experiments by the General Electric Company, but were not taken to see the railway to Zossen.

The trials, when they do occur, will attract electricians, machinists, railway managers, and expert scientists from all European countries, and the results, if as successful as is now anticipated, will mark a notable epoch at the beginning of the century. From all that can be learned from the eminent, but very conservative, men who have the enterprise in charge, no insurmountable difficulties have yet been encountered; but, on the other hand, everything thus far done has been merely tentative and preparatory. The real difficulties of the problem have yet to be met.

FRANK H. MASON,
Consul-General.

BERLIN, *July 9, 1901.*

NEW LINES OF THE HAMBURG-AMERICAN STEAMSHIP COMPANY.

It is reported on good authority that four new lines are to be incorporated with the Hamburg-American Line:

(1) The "Jebsen" Line, between Shanghai and Tsintau. This line was subsidized by the German Government; it is proposed to enlarge the service and extend it to Chefoo and Tientsin, the Hamburg-American Line wishing to gain part of the Chinese shore trade.

(2) The share held by the Bremen firm of Rickmers in a line operated on the Yangtze by the North German Lloyd. It is expected that the Yangtze commerce will soon increase greatly. The North German Lloyd and the Hamburg-American Line in this case work together.

(3) The third project is that of a regular East Asia and San Francisco route, by which (using the overland route between San Francisco and New York) a more rapid communication with the East will be secured than via the Suez Canal.

(4) The fourth enterprise is the purchase of the British Atlas Line, operating between New York, the West Indies, and South America.

RICHARD GUENTHER,
Consul-General.

FRANKFORT, *June 26, 1901.*

REPORT OF FRENCH STEAMSHIP LINE FOR 1900.

The following is a résumé of the annual report of the French Line of steamers (Campagnie Générale Transatlantique) for 1900:

The net value of the company's steamers, real estate, personal property at the agencies, material and supplies, etc., amortization deducted, on December 31, 1900, was $20,611,189, as compared with $22,724,585 on December 31, 1899. The assets were $30,240,772.

The total receipts for 1900, including subsidies, were $10,671,094, as compared with $9,558,542 in 1899. The total expenses were $9,389,344, as compared with $8,312,765 in 1899.

The net profit was $287,993, from which a dividend of 16 francs ($3.09) per share, amounting to $247,040, was declared, and the balance ($40,953) carried over to the year 1901.

The augmentation of the receipts during the year was principally due to the increase in the number of passengers carried, especially those of the emigrant class.

The increase in the operating expenses can be attributed to the high price of coal and the increased wages the company was obliged to grant its crews, as a result of the strike at Havre and other maritime ports of France.

A. M. THACKARA,
Consul.

HAVRE, *July 3, 1901.*

FIRE-INSURANCE OPPORTUNITIES IN FRANCE.

American life-insurance companies have been transacting a large volume of business in France for many years; but if our fire-insurance companies have extended their field of operations to this Republic, I have yet to learn of the fact. My attention has been more particularly called to the matter by information recently received from Messrs. Roussier & Coulbaut, of 40 rue Paradis, Marseilles. These gentlemen express their wish to be informed concerning reliable American companies desirous of underwriting policies taken by French companies, which wish to divide the risk. Various authorities whom I have consulted express a divergence of opinion as to the possibility of American companies engaging actively in the insurance business, and of occupying themselves passively underwriting risks already taken by French companies. While I have heard doubt expressed concerning the probable success of original effort on the part of American companies, all of my informants agree that they should be able to do a large amount of underwriting for the French companies. At present, British corporations are very much in evidence, but the field is not yet sufficiently well occupied, and the firm I have named, who are general agents for the Compagnie du Soleil, seek information which will enable them to share large risks that they do not feel like imposing exclusively upon their own company. I suggest the advisability of communicating directly with Messrs. Roussier & Coulbaut, who are prepared to supply all the detailed information necessary.

Companies desirous of engaging in business on their own account are required to satisfy various requirements of law with respect to their responsibility, and in addition, they pay upon the amount of their business (1) a stamp tax of 4 centimes (0.77 cent) per 1,000 francs of insured value; (2) a tax of 0.006 franc (0.0011 cent) per 1,000 francs; (3) a registration tariff amounting to 10 per cent of the premium.

ROBERT P. SKINNER,
MARSEILLES, *July 12, 1901.* *Consul-General.*

ICE IN FRANCE.

Since the publication in the CONSULAR REPORTS of my recent brief report in regard to ice in France,* I have received many letters requesting additional information upon the subject. In almost every instance, one of the first inquiries is: "What are the prospects for the establishment of an ice-cream and cool-drink business in the large French towns?" Speaking generally, I should say that as far as Rouen is concerned, the outlook for such establishments is good.

A few evenings ago, I stopped at one of the largest cafés here and asked for ice cream. It was served in a little glass about the size of a wine glass. There was certainly not more than three level tablespoonfuls, and of a poor quality at that. The cost was 20 cents. There are only two or three places in this city where cream is served. In order to make such a business pay, however, patience would have to be exercised. In Normandy, new ideas filter into the people's minds very slowly, and the person who opened an ice-cream saloon would, in the beginning, be regarded with suspicion. Then, there is a deep-seated predjudice against cool things, and physicians, generally, say that ice is most injurious to the health.

Another question which has been repeatedly asked is: "Can ice be had at a reasonable price, and, if not, would a small ice-making plant pay well?" Undoubtedly, a market exists in many of the larger cities of France for ice-making machinery of American manufacture. This spring, a Mr. Patterson, an American, established the first ice factory in this city. Heretofore, all ice has been shipped from Norway, but it can not be long before such competition must give way to the manufactured product, even though the imported ice is admitted free of duty. A letter received recently from Mr. Patterson will throw some light upon this subject:

---

*ADVANCE SHEETS No. 949 (January 31, 1901).

GLACIERES DE NORMANDIE,
Rouen, June 25, 1901.

MY DEAR MR. HAYNES: Replying to yours of the 20th, I take pleasure in saying I am the founder of the above-named company, which has been in operation since February. The capacity of the plant is 24 tons per day. The entire plant, including boiler, pipes, and fittings, was purchased from the Vilter Manufacturing Company, of Milwaukee, and the installation is a perfect success.

In addition to the above, we have a large cold-storage department operated from the ice plant, but by a separate ammonia compressor.

This line is new over here, and it will possibly take years to obtain American results, yet success will certainly come sooner or later. Our plant employs twenty hands, including teamsters. We have at present five wagons, and trust before summer is over to increase this number materially. The competition is Norwegian ice. This ice is delivered in France for little or nothing, and has been sold at retail as low as 7 francs ($1.35) a ton. We, however, take our stand purely on the question of hygienic ice, and believe success will crown our efforts, as the French appreciate hygiene.

Last year, ice retailed in Normandy at 300 francs ($57.90) a ton, and this year, due to our efforts, the retail price is but 50 francs ($9.65). Yet the clientage has to be made, for up to the present ice has been a luxury that only the rich could afford. The value of cheap ice is little known, and, in great part, is doubted by the people in general. The cost to manufacture ice is about double that in America, due mostly to the high price of coal, oils, ammonia, etc. Our company is formed not only for Rouen, but for this entire section of France, and as fast as we can develop sales we will start plants elsewhere. At present, we have under consideration but two new installations, as it will require great patience and labor to secure adequate consumption. A more satisfactory letter on this new enterprise will be cheerfully given you in 1902.

Very sincerely, A. V. PATTERSON.

A number of persons writing to this office have asked if, independent of the actual making and selling of frozen dainties, a paying business could be worked up in the sales of ice-cream freezers, milk shakers, soda-water fountains, etc. I can only answer by saying that such things must follow the general introduction of ice. From the tone of Mr. Patterson's letter, one must conclude that a market for these articles is fast being developed. Already, refrigerators are making their appearance in Rouen. Only a few days ago, I saw, for the first time, a circular, with diagrams and cuts explaining, in French, what a refrigerator was—its principle, object, etc.—saying, among other things, it was exactly like the American refrigerator. The agent for this article is an American, and in all probability he is handling an American refrigerator. I am sure he will meet with success. All over this city are the butchers, the dealers in horseflesh, pork, beef, and mutton. The majority of the people buy only a few cents' worth of meat at a time—2, 4, 6, 10, or 20 cents, perhaps. The serving of ice-cooled meats directly from refrigerators would undoubtedly increase the business and ultimately lead to the introduction of this convenience, not only into private houses, but into hotels, restaurants, cafés, etc. However, no firm in America can build up a trade in this line by simply writing a letter to some consulate, asking that the two or three English circulars inclosed be handed to persons who may be interested.

"What duties are payable on the articles mentioned?" has been asked in many letters. This question is difficult to answer with absolute correctness, from the fact that refrigerators are not mentioned in the French tariff. An ice-cream churn, for instance, may be made of zinc and wood; the import duty on the wood would be $1.44 per 100 pounds and on the zinc $1.15. But on such articles the tariff is calculated on the material paying the highest duty; hence, the churn would have to be entered at the rate of $1.44 per 100 pounds. It is difficult to say under what head articles like refrigerators, etc., coming for the first time into a French port, would be classed. Information might be obtained, however, from the collector of customs at the particular port where entry is intended, through the medium of the United States consul there.

I have just seen in one of the Paris dailies the following dispatch from London, which seems to indicate that France is not the only field for the development of this American industry:

> In one respect, London suffers as no American city suffers—namely, in the lack of ice. Although some millions of tons of ice find their way up the Thames every year from Norway and Sweden, the people in London scarcely know its use for domestic purposes. Beyond the supplies to fishmongers, public houses, and grocers, there is practically no delivery of ice through London streets all summer. A year ago, an attempt was made by one of the largest ice dealers to popularize the use of ice in small quantities among householders. For this purpose, wagons were sent around accompanied by icemen offering to sell a pennyworth. The manager of the company said the experiment was only a partial success, from the fact that the people had no place to keep the blocks, and in an hour or two they naturally melted. The manager, continuing, said: "But we expect to try again in a different way. We are going to bring a number of American refrigerators to distribute in various districts of London. These refrigerators will be only ordinary ice chests, such as are used in the households of American cities. The idea is to give an object lesson in the practical use of ice through the summer, as we are confident that it would mean a great saving both in health and in money, and especially among the poorer classes. We do not propose, however, to confine our efforts to the poor, or even to the middle, classes. Among the western residences it is astonishing how few ice chests are found. Somehow, the idea was never popular in England, and the consequence has been not only an enormous waste of food, but positive discomfort. With American refrigerators in general use, this ought soon to be remedied."

The address of this manager is Mr. Been, manager of Slater's Company, London.

THORNWELL HAYNES,
Consul.

ROUEN, *July 20, 1901.*

AËRIAL NAVIGATION IN FRANCE.

Consul Haynes reports from Rouen, July 22, 1901, in regard to the prize offered by a Frenchman, Mr. Henry Deutsch, to promote the development of aërial navigation. Mr. Deutsch placed at the disposition of the Aëro Club 100,000 francs ($19,300), to be given to the experimenter who, starting from St. Cloud, should in half an hour double the Eiffel Tower and return.

The consul describes the attempt of Mr. Santos-Dumont, a young Brazilian, to win the prize. Many well-known authorities in France, Mr. Haynes says, have pronounced this the most important development in aërial navigation. His balloon is described as follows:

> It is a cigar-shaped cylinder 111 feet long, 19 feet in diameter, and 600 cubic yards in volume. It has a 4-cylindered petroleum motor of 16 horsepower; a propeller screw measuring 13 feet from blade edge to blade edge, and making 200 revolutions per minute; and a traction power, measured by the dynamometer, of 160 pounds. To give the cigar-shaped structure sufficient rigidity to cleave the air, there is placed within it a smaller balloon, which is supplied with air by an aluminum ventilator, the volume varying with the altitude, keeping the exterior balloon constantly stiff.
>
> Below this balloon hangs a sort of triangular framework 59 feet long, consisting of three curvilinear wooden scantlings joined with aluminum and strengthened by crosspieces of wood and a network of piano wire. At 23 feet from one extremity of this light framework, in the center of the triangular section, the motor is suspended by piano wire. At a distance of 23 feet from the other extremity is situated the little basket car, in which the aëronaut takes his place and where he controls the arrangements for lighting the motor, for starting the screw propeller, for working the rudder, controlling the escape valves, and regulating the displacement of the guide rope from one end to the other, by means of fine cords. This displacement of the guide rope is meant to incline the balloon in the direction that may be required for ascending or descending. The framework, with its motor and the aëronaut's car, is suspended from the balloon by steel wires of such tenuity that they are invisible at a distance of 160 feet.

In the trial on July 13, adds the consul, there were two conditions with which Mr. Santos-Dumont failed to comply: The air ship did not accomplish the journey inside of thirty minutes and did not come to earth at the starting point. The journey was made in forty-one minutes, at an average speed of about 13 miles an hour.

Each year, the authors of projects will be allowed to prove the practicability of their apparatus. All machines must be manipulated by the competitors at their own expense and risk. If the prize is not won within five years, beginning April 15, 1900, the offer of Mr. Deutsch will be null. Until someone succeeds in gaining the prize, he will turn over to the committee of the Aëro Club each year

4,000 francs ($772), for distribution among those most deserving of encouragement.

Full details of the conditions established by the Aëro Club committee can be had by addressing La Commission Scientific d'Aérostation, 48 rue de Colisée, Paris.

AGRICULTURAL EXPOSITION IN NANTES.

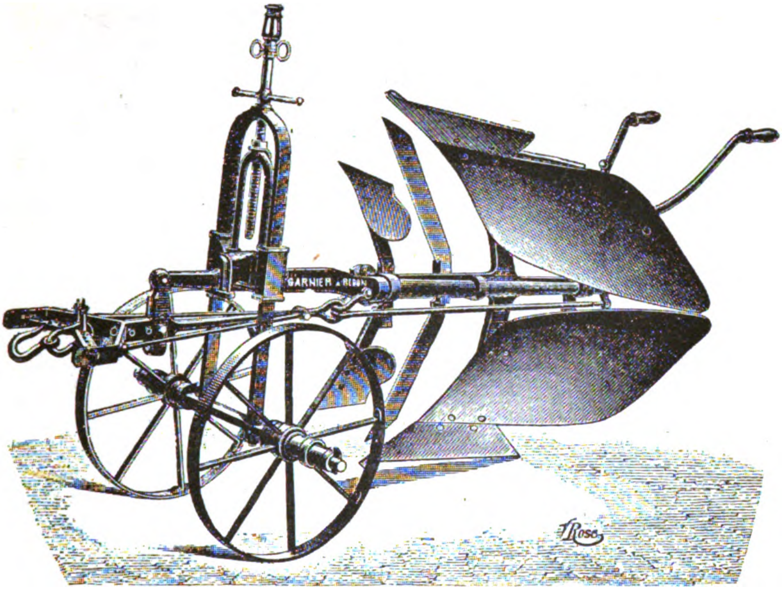
An interesting agricultural exposition was held in Nantes during the last week in June. From twenty to thirty Departments assisted in making it a success. There were exhibits of machinery, wines, cattle, and swine, as well as of horses. The following manufacturers of farm machinery in the United States were represented by good displays: Johnson Harvester Company, D. M. Osborne & Co., McCormick & Co., the Plano Company, Wardner Bushnell & Co., Walter A. Wood & Co., Adriance Reaper and Binder Company, Deering Harvester Company, Bucher Gibbs Plow Works, and the Oliver Chilled Plow Works. There were also fine displays of agricultural machinery made by the Massey Harris Company and the Mann Harvesting Company, of Canada. There was an extensive display of steam thrashers and separators, but with the exception of one or two English firms, exhibitors in this line were all French.

The ordinary French thrasher does not do as complete work as the American machine, and requires more men to operate it.

The dairy machinery was from Switzerland and France, none being from the United States.

American mowers are coming into general use in this part of France. Between seven hundred and eight hundred were received at Nantes within the past year, as well as a number of reapers and horse hayrakes. Farmers combine and purchase reapers and binders, one machine doing the work on several small farms. American plows are but little used in this part of France, one reason being the disposition of our manufacturers to force the French farmer to use plows made according to patterns used in the United States, instead of ascertaining what models are desired here. The leading French plow exhibited was one with a double moldboard and share. While the farmer plows with one share, the other share and the moldboard rest directly above the ones in use; one being left and the other right handed. When the end of the furrow is reached, the farmer turns down the other share. This style of plow is very common, because of the fact that grain and vegetables are planted in ridges, instead of on a level surface. These ridges are from 18 to 20 inches in width and about 12 to 14 inches apart, with a rounded surface.

The peasant women pass between the ridges of growing grain and pull out the weeds. The cut represents the style of plow to which I refer.



These agricultural exhibitions would be excellent places for the display of all sorts of American agricultural machinery and tools, as well as labor-saving inventions, such as meat cutters or grinders, feed mills, dairy machinery, washing machines, wringers, and kitchen novelties. Thirty-five thousand persons attended the exhibition on the last Sunday.

JOSEPH I. BRITTAIN,
Consul.

NANTES, *July 15, 1901.*

SHORTAGE OF WHEAT IN FRANCE.

The French wheat crop began to be harvested the 29th of June, which was considerably earlier than usual, and on July 12, the date on which the information in this report was taken, three-fourths of the entire yield had been cut—that is to say, the harvesting has been practically completed at about the time when it usually begins. It is no longer doubtful that there will be a very serious shortage, and that the country will become again an importing nation. The expectation of those who have given the matter study based upon previous experience is that France will be obliged to look abroad during the coming year for perhaps 56,000,000 bushels, including the hard wheat not produced in this country and usually imported for semolina manufacture from Russia and Algeria. Of the total importations, probably 32,000,000 bushels will be entered through the port of Marseilles, of which one-third will consist of hard macaroni wheat, such as can not be supplied by the United States, at least for the present. This leaves about 20,000,000 bushels of soft wheat required for this port, the most of which will certainly be forwarded from the United States, if prices so adjust themselves that Russian wheats are not lower. Soft wheats entering Marseilles, other than those from the United States, come mainly from the Black Sea region. Reports from the country southeast of the Azof are very unfavorable to a large yield, but the prospects from the southwest of the Azof are considered good. Already at least one cargo of American wheat of the new crop is on its way to this port and has been sold in small lots to about fifteen dealers, purposely, in order to disseminate practical information as rapidly as possible concerning the real quality of the new crop, upon which they will probably depend to an important extent. The importers hope that the Americans will not force prices to a point that will abnormally strengthen competition from Russia, and anticipate that the business of the year will be comparable to that of 1898, when the French crop was also short and large quantities came in from the United States.

An estimate of crop conditions in this country has been prepared by A. Couteaux, justly regarded as one of the most competent authorities in the country. Writing on July 12, he said:

> The Government supplied an estimate of the wheat situation on May 10, based upon reports from the professors of agriculture, and according to this report, gathered from each Department, a harvest of 126,000,000 hectoliters (357,588,000 bushels) was contemplated. The Minister of Agriculture has now published a second report upon the situation, dated July 1. The number of points accorded in this report to each Department has so diminished that according to the millers' organ the total harvest will not exceed 108,000,000 hectoliters (306,504,000 bushels).
>
> All this simply confirms my former unpleasant convictions and authorizes me more than ever to believe that we ought not to stake our measure of the crop on that of 1900, but rather on that of 1897, which gave 87,000,000 hectoliters (246,906,000 bushels). This figure may be increased by 5,000,000 or even 10,000,000 hectoliters, since while a portion of the harvest is still uncut, I should not care to establish a point of nearer than 5,000,000 or 10,000,000 hectoliters (14,190,000 or 28,380,000 bushels), for a harvest can not be estimated with certainty even after thrashing. What I wish to say is that in my opinion the actual crop ought to be placed between that of 1900 and that of 1897, more nearly that of the latter year.
>
> However it may be, there can be no doubt to-day to any man who does not voluntarily close his eyes that the year will see a serious deficit, and we shall be obliged to import for our use a large quantity. What will this be? Fifteen millions? Twenty millions? Who knows? Under these circumstances, it is not the French market that will decide the price of wheat, but the American market. It is true that the United States has this year an extraordinary harvest, greater than

ever before obtained—that is, unless the drought persists; it will not be the first time that our worst harvests have been counterbalanced by abundant harvests in the United States. This phenomenon reproduces itself with such regularity as to seem to be the result of a natural law.

In 1894, in a discussion on the project of law establishing a duty of 7 francs per quintal ($1.35 per 220.46 pounds) upon wheat, I signalized to the Senate this singular coincidence. "On the condition," said I, "that France harvests on an average the wheat of which she has need for her purposes, and so long as she will be obliged merely to seek abroad the necessary quantity to make up a deficit of a bad harvest, a famine or even an extraordinary dearness of wheat will become much more impossible, since by a phenomenon which seems to be the consequence of a natural law, so frequently does it reproduce itself, that when we have bad harvests in France there are good and abundant harvests in the United States, and vice versa."

The public estimates of the month of June by our Government on the one hand, and of the Millers' Association on the other, having led them (the Americans) to believe that there would be a good harvest in France, they have in consequence lowered from seven to eight points in a month (1½ francs per quintal), not at that time perceiving the demand for their excess; but the two more recent estimates coming from the same sources have scarcely been published when they see clearly, and no longer doubting that they can supply our needs, they have at Chicago and New York increased in a single day two and a half points—that is 50 centimes (9 cents). Henceforth, it is upon the range of prices of American wheats similar to ours, such as red winter No. 2 and Wallawalla, at Antwerp and at Liverpool that we must watch, in order to judge the price which French growers can hope to secure.

ROBERT P. SKINNER,
Consul-General.

MARSEILLES, *July 18, 1901.*

AMERICAN SALESMEN IN GREAT BRITAIN.

The issue of June 29 of the Cycle Manufacturer and Dealer's Review, of London, has the following editorial:

We believe we are right in saying that the American machines which are bidding for an English trade have not sold at all well this year. It is obviously well-nigh impossible to get at first-hand facts, but scraps of information which have reached us, and sundry admissions in certain quarters, all tend in the same direction—namely, that the American bicycle can only get a sale when it is very cheap. In our opinion, the Americans are slow to grasp the situation over here, and neglectful of the opportunities that present themselves. For instance, it may be taken for granted that an American machine takes a lot more push to sell it in England than an English machine of equal merit, and yet the advertising of the American machines over here has been absurd. In the first place, very little money has been allotted to advertising by the head offices in America, and then the style of advertisements has not been such as would be warranted to create a demand among the public. One firm took space in the public cycling paper, and in the proper course of events should have set themselves to prove to the public that the machine was worthy of confidence, that it was reliable and suited to English roads, that it was built to English requirements, and that it had many little points about it which placed it in the very front rank of cycles. In fact, this particular machine has a few talking points that are entirely absent from any English-made machine. Now,

> did the agency for this machine tell the public a word about all these things? Not a bit of it. They advertised that "the early bird catches the worm, and that there are few worms so fat as the agency for ——— cycles;" and they repeated this advertisement for a couple of months, in spite of protests on the part of the paper that it could bring them no results. The advertisement might have been all right in a trade paper, but in a paper going to the public it was a sheer waste of money. This is the kind of thing that the Americans give us, and not unnaturally the business results are of a very limited nature. It is the same with accessories. American firms or agencies handling American goods have seldom done well, but when the British get hold of the goods, business is built up on right lines, and a big trade is done. The ——— lamp is a case in point. When it was first introduced into this country, a big sale resulted from extensive advertising. Then, in order to increase the turnover, the American representatives went in for what they thought were smart moves in selling—planting firms with enormous quantities, giving "sole agencies" with the freedom of price lists, and so forth. The consequence not unnaturally was a flooding of the market with ——— lamps at any price, in order to reduce stock, with the result that the lamp was ruined. Moreover, this sudden reduction of price frightened the public away. Afterwards, the agency was secured by the ——— (a British concern), who ran it on right lines, and a trade is slowly being built up again, but there will for some time exist the suspicion that there may be a renewal of the former break in prices.
>
> With single-tube tires the Americans distinctly failed over here. We had the ———, the ———, the ———, the ———, and others, but in the first place the tires were not built to stand the amount of work which cyclists give their machines in this country, and in the second place a lot of low-class stuff was dumped down here and the single-tube tire earned for itself a shocking reputation. The American representatives were quite unable to meet the difficulties that presented themselves, and so went away in despair, leaving the ——— company to be formed by an Englishman, the goods to be made in America and suitable for our requirements, and for the business to be run on sound lines. The result has been that the single-tube tire is gradually getting a good hold of the trade, and a very sound business has been built up.
>
> About the only article that has been really well worked by an American, and which has steadily increased its trade from the day it was introduced into this country, has been the Morrow hub. But in this case the American at the head of affairs has had the gift of adaptability, and, quickly gauging the system of doing business here, has run his concern in a way that has brought the trade into his hands. But for this instance, we feel that we should be justified in saying that the British atmosphere quickly dulls the brightness of the Yankee, and causes him to run to rust. At any rate, those who have attempted to run their business on the American lines of "selling for to-day and hang to-morrow" have all of them signally failed to do business with us.

The only comment I care to make on the editorial of the British bicycle paper as given above is that the editor assumes incorrectly that the mistakes he tells of in methods of selling were those of the American salesman. In nearly every case referred to, I can almost say it is within my personal knowledge that the selling methods pursued were those stubbornly insisted upon by the American manufacturers, despite the protest of representatives whom they had personally selected to go abroad—men whose judgment has been much valued when they were in the home employment, but who found when they were abroad that practically no credence was given to their statements of the trade necessities here. Many a good American salesman has been recalled "in disgrace," and through no fault but inability to unnecessarily force American merchant customs in foreign markets. The story of the American salesman in our new export effort as I, an American consul, could tell it would not be pleasant reading. The wonder is they have accomplished so much, and I must confess I have about made up my mind to quit reading statements of our jumping statistics, for whatever are the totals they only touch the unbounded possibilities; no matter how they soar, there is waste in effort and failure to take full advantage of opportunity.

I have met hundreds of American salesmen since I have been consul here, and have had most pleasant relations and many friendly and confidential conversations with them. It is really a strange and unhappy fact that I have heard only three of these men express themselves as satisfied that they have had proper home support. The case of one of these I will not mention. Of the other two who were satisfied, one is the son of the American principal and is given a good swing, but even his satisfaction hardly stood my cross-examination, and he left my office with a significant shake of the head, which I think I understand. The third man has been marvelously successful and naturally wants full credit for it, but admits he had a free hand, and that the opportunity to act as he thought best was due to the London partner of the business, who wrote repeatedly to his American associates demanding they keep hands off and not interfere with their American salesman here.

It is a fair assumption, if there be a good sale in England for American printing presses, American printing accessories, American printing inks, and even for American colored and fancy printed matter, that there is a general American printing superiority, yet an American representative in London for an American printing-ink manufacturer was scolded because he asked that his ink samples be printed in America, as he could not get the same results here. He was told he must be a fool if he could not get good printing done in the largest printing center in the world—viz, London. If his principals had written that it would be better policy to sell their inks on the basis of English-printed samples—because the American-printed samples promised more than the English purchasers of the inks could accomplish with their best efforts—it would have been a business proposition; but even then it would have been advantageous to show side by side with them what splendid results were obtained with the same inks in America.

MARSHAL HALSTEAD,
Consul.

BIRMINGHAM, *July 11, 1901.*

AMERICAN ENGINES IN GLASGOW.

Consul Taylor, of Glasgow, July 26, 1901, writes in regard to recent newspaper attacks on the American engines used by the Glasgow tramways. It is asserted that the engines, at the opening of the exposition, were incapable of running; that later, when tried with a light load, they broke down through the bearings becoming overheated, and that they were generally unsatisfactory. The consul says:

These assertions were never warranted by complaints emanating from those who had supervision of the tramways. I have the very best authority for saying that not only have the American engines fulfilled, but they have exceeded, expectations. Mr. H. F. Parshall, the consulting engineer, reports to the tramways committee of the town council:

> The little trouble at first experienced from warm pins with the Allis (*i. e.*, American) engines has entirely disappeared. No. 1 Allis engine has now been carrying the carload for eleven days and No. 2 for sixteen days. The average load on an engine for 250 cars amounts to some 1,400 K. W. The average output from the station amounts to 0.93 board of trade unit per car mile, which figure will indicate to you that the system generally is working efficiently and well. As regards the Musgrave engines, the first commenced turning round on Monday last. There have been some incipient troubles from heating, but not more than might reasonably be expected in starting a new engine. The engine will be first put on artificial load on Saturday, provided things go on satisfactorily, and it is expected it will be in satisfactory working order for carload in a week from that time.

The "incipient troubles from heating," mentioned in this report as affecting the Musgrave engines were the same as met with at first in the Allis engines, and were eagerly seized upon by interested parties who wished to advertise that the Allis engines were failures. In a conversation with one of the managers of the road, I was given the history of the trouble, which I quote almost verbatim:

> The Allis engines did not really have a fair chance at first. The 24th of April—the day on which the tramway system was formally opened—was the first day on which they were set going. The system was formally opened that day, but the tramways did not commence running till April 27. It was not deemed advisable to put the full load on the Allis engines on the 27th, and they did ultimately break down. This was not surprising, as they were wholly untried engines and it was scarcely reasonable to expect that they should be perfection on first asking. The cause of the breakdown was very trifling; it was caused by the bearings becoming overheated, due to a defect in the lubricating arrangements. It was about a month afterwards before the Allis engines could supply all the power to operate the tramways. After that time, the power for the whole system was provided by them. They have not since broken down in any shape or form, and from the time they

were properly started they have given every satisfaction and continue to do so. They have come quite up to the best expectations formed of them; in fact, they have surpassed anticipations. As they have not been officially tested yet, it is perhaps premature to give any opinion regarding their real merits; but so far as their connection with the operation of the tramways is concerned, they have done splendidly.

SAMUEL M. TAYLOR,
Consul.

GLASGOW, *July 26, 1901.*

AMERICAN COMPETITION IN AUSTRIA-HUNGARY.

In all the recent efforts of Austria-Hungary to further its export trade, repeated mention has been made of the danger of American competition in this Monarchy. Germany exports more to Austria-Hungary than any other nation. For the year 1900, merchandise to the value of some $127,000,000 was sent from Germany to Austria-Hungary, while, on the other hand, the exports of Austria-Hungary to Germany amounted to some $188,300,000. Countries exporting to Austria-Hungary are, in the order of the amounts exported, as follows: Germany, United States, England, Italy, Russia, British India, Switzerland, France, and Brazil. It will be noticed that the United States occupies the second place. This fact, accepted without further investigation, really suggests more than it should. There is a vast difference in the figures for Germany and those for the United States. While Germany sent into Austria-Hungary, during 1900, $127,000,000 worth of goods, the exports of the United States to Austria-Hungary amounted to about $30,600,000. The circumstance causing the chief dissatisfaction in this Monarchy in regard to our reciprocal trade is found in the fact that the United States comes ninth in the list of countries to which Austria-Hungary exports, the Monarchy having sent to us in 1900 products to the value of $7,600,000, which is an increase over the previous year of about $1,150,000 and the greatest amount exported to the United States from Austria-Hungary during the past eight years.

One hears much in manufacturing circles in Austria-Hungary of the "American danger." A measure to exclude American canned meats is demanded by Austrian manufacturers and economists, who claim that inasmuch as Germany has prohibited the importation of certain meats in air-tight cans and barrels, which acts chiefly on American shipments in this line, American packers, losing a market in the German Empire, should be hindered from increasing their sales in Austria-Hungary. American shoes are about to be extensively launched on the Austrian market, and as a consequence the shoemakers' guild in Vienna is sending a deputation to the Government to petition that measures be taken to prevent the American competition. Especial mention is made of tacks, which Austria has exported in large quantities profitably to the Levant, India, and Japan. American manufacturers can now offer them at a price that much impairs the Austrian industry in this line, and almost excludes further business. One well-known Austrian manufacturer advocates the formation of trusts in Austria on American principles. The supposed American peril is touched upon in all discussions concerning the strengthening and expansion of Austrian commerce. In debating in Parliament the important bill for the construction of a system of canals in Austria, frequent reference was made to the growth and power of the United States and the danger of its competition in this Monarchy.

CARL BAILEY HURST,
Consul-General.

VIENNA, *June 29, 1901.*

PATENT MEDICINES IN AUSTRIA.

In consequence of many inquiries addressed to this consulate-general in the matter of the Government regulations in Austria regarding the importation and sale of patented medicinal and chemical preparations, I would report that the sale of "arcana," or secret remedies, has always been strictly forbidden in this Monarchy. Trade in such medicines and advertisements of the same are under strict surveillance of the law. Further, those medicinal preparations of which the prescriptions are not open to inspection by physicians, or in the prescriptions of which the substance of the medicinal ingredients can not be definitely recognized as to kind and quantity, may not be kept for sale in apothecaries. Only those manufactures may be considered as pharmaceutical specialties that contain drugs acknowledged to be medicinal remedies, as, for instance, balsam copaiba, oleum santali, and the like; or, pharmaceutical preparations, as extractum filicis maris, extractum cubebæ, and the like; or simple mixtures of the same in a new and more practical form of application, or more pleasing to the sight, smell, and taste, such as capsulæ gelatinosæ, amylacæ, glazed, sugar-coated, or other kinds of pills, gelatinæ medicatæ, sapones medicati, etc.

In the case of all not officinal pharmaceutical preparations and specialties for sale in apothecaries, the authentic prescriptions, carefully listed—native and foreign separated—must be kept on hand, ready for instant inspection upon request of the authorities. Further, copies of the labels, directions for use, vignettes, advertisements, or publications of any kind in reference to the same, tending to push their sale, must be kept on file. The authorities have the right to stop the sale of all pharmaceutical preparations not in conformity with the above regulations.

Every new medicinal preparation intended for use by the public must be reported to the authorities, and its sale may not be begun until said authorities have found no reason to prohibit the same. Prescriptions of foreign medicines must be accompanied by precise directions for their preparation from the foreign manufacturer, and be provided with his signature and business stamp.

Private persons desiring to import patent medicines must apply for permission to the authorities; but small quantities, carried by travelers for their own use, are admitted without question, and, if the article be duty free, without payment of a customs tax.

There are certain limits placed on the importation by druggists of patented medicinal preparations, in reference, principally, to secret specialties and nostrums. Altogether excluded are cosmetics that by their labels, wrappers, and advertisements are affirmed to be efficacious in the removal of personal blemishes—impure skin, freckles, liver soots, and baldness—and are, therefore, qualified as remedies.

The regulations in Austria in regard to the advertisement of patent medicines are likewise strict. All laudatory notices in local publications of cures and remedies coming from abroad constitute a transgression of the trade laws, and, under certain circumstances, foundation for complaint of unlicensed medical practice. As, however, the importation of foreign medicines is permitted to druggists, a suitable announcement of the same in the papers can not be forbidden if done in accordance with existing laws, all the more as the advertising druggists are responsible for any illegal action. The recommendation of any special remedy for general use—hence irrational application of the same for various diseases—can not be sanctioned, as in such cases the remedy is falsely invested with the efficacy of an arcanum. But to the straightforward announcement of any admissible medicinal preparation, with mention merely of its direct effect—such as purgative, solvent, sudorific, and the like—no objection can be made.

CARL BAILEY HURST,
Consul-General.

VIENNA, *June 26, 1901.*

Consul Hossfeld, of Trieste, transmits, under date of July 12, a report covering the same information. He adds:

The Austrian law also undertakes to regulate the prices to be charged for patent medicines, for it provides that whenever the reasonableness of the price of such a remedy is questioned, it shall be rated on the basis of the official tariff promulgated in the Pharmacopœia Austriaca.

I have deemed it advisable to call attention of interested parties to these provisions of the Austrian pharmacy law, in order to save expense and disappointment. Only a few days ago, an American firm which is doing a large export business in family remedies informed me that a consignment of medicine shipped to its agent in Dalmatia had been held up on the ground that the agent must obtain a permit from the sanitary authorities before the parcel could be delivered to him. The firm stated that no legal restraint was placed upon the sale of its remedies elsewhere, and requested me to facilitate, if possible, their entry here. Unfortunately, all that I could do was to call the attention of the firm to the Austrian law regulating the sale of proprietary medicines, and to advise it to appoint as its agent a licensed pharmacist, partly because such a person would probably be able to facilitate the sanitary examination of the remedies withheld, but especially because none other would be authorized to sell them when admitted.

Those of our manufacturing chemists who are disposed to take the Austrian public or sanitary authorities into their confidence will probably not find it very difficult to obtain the necessary permission for the sale of their products, but I doubt whether any business which they may do in this country will ever prove a source of great profit to them.

INDUSTRIAL MOVEMENTS IN HUNGARY.

In a former report* I called attention to the inducements held out by the Governments of Servia and Roumania to parties who would start industrial enterprises in those Kingdoms.

It now appears that the Government of Hungary is also anxious to interest capitalists in establishing manufactories of various kinds in that country, and will grant valuable concessions to investors, in order to promote a revival of the industries and the prosperity of the business world of Hungary.

Among the enterprises for which the Government will grant subsidies are, according to the Dutch "Weekblad voor Exporthandel," a barrel factory, an asbestus factory; an establishment for the manufacture of articles of lead, zinc, and tin by electricity; a silk factory; a cotton spinning and weaving factory; a woolen-yarn mill; and an agricultural-machinery factory.

The paper quoted also states that the Hungarian Government is planning to expend a considerable amount of money in the irrigation of various parts of the country, and that capitalists and manufacturers will find it to their advantage to pay attention to the present industrial and agricultural condition of affairs in Hungary.

S. Listoe,
Consul.

Rotterdam, *July 12, 1901.*

---

*Advance Sheets No. 1068 (June 21, 1901).

ELECTRICAL DEVELOPMENTS IN GREECE.

The progress of communication within Greece at present is marked, and promises in the near future to bring conveniences of travel to a level with those of any country in Europe. The Greek Electric Company, otherwise known as the Thompson-Houston Company, established in 1898, with a capital stock of 10,000,000 drachmas* ($1,250,000), of which 5,000,000 drachmas ($625,000) is paid up, is now completing in Patras the first electric street railway in Greece, and in fact in the East. The same company operates the gas company of Patras, the electric-light plants of Athens and Piræus and of four or more other cities, and is now negotiating with the Athens-Piræus Street Railway Company to supply motive power from a central electric station at Phalerum, near Athens. This proposed power station, if constructed, will be on a scale sufficiently large to supply power for manufacturing purposes, as well as for the lighting of Athens, Piræus, and Phalerum. It is also current rumor that the Franco-English company, already organized to construct a broad-gauge railroad through the north of Greece to Athens, will soon begin operations. The completion of this road will connect Greece with the north of Europe by rail, and trains will be run from Paris to Athens direct via Constantinople.

Speaking more particularly of the street railway in Patras, the system will be similar to that found in general use in France and Italy. The road has been constructed entirely of iron and with considerable dispatch. The motive power will be furnished by gas motors of German construction. The steel rails are from Belgium, while from the United States there will come—from the General Electric Company, of New York—the material for the aërial line, insulators, circuit brakes, and car motors; and—from the John Brill Company—the trucks for the cars. The main stem of the road is constructed the length of the city, parallel with the sea, and extends some distance beyond the city limits, to a point suitable for coffee-houses and baths. Business men generally believe the road will prove of great benefit to the city, but are skeptical as to the results to the company. It will probably be some time before the road will become a paying investment.

F. W. JACKSON,
Consul.

PATRAS, *July 10, 1901.*

---

*The consul values the drachma at 12½ cents. This is the depreciated current paper drachma, for the United States Treasury values the gold and silver drachma at 19.3 cents.

COMMERCE OF CYPRUS.

Consul Ravndal, of Beirut, under date of June 14, 1901, transmits a report on the industries and commerce of the island of Cyprus, which reads as follows:

I have collected from various official sources the following statistics of the exports and imports of Cyprus:

Year.	Exports.	Imports.
1874	$1,891,125	$735,450
1879	1,542,035	1,111,090
1896	1,485,710	1,200,255
1899	1,538,270	1,588,905
1900	1,841,380	1,862,960

The principal exports in 1900 were:

Carobs	$440,050
Barley	286,405
Wine	149,390
Silk cocoons	90,040
Wheat	81,870
Raisins	78,605
Mules, oxen, and donkeys	77,937
Lemons, oranges, and pomegranates	48,065
Hides and skins	45,895
Wool	33,765
Cotton	31,920

Other important articles of export are cheese, spirits, vinegar, sponges, linseed, aniseed, and gypsum. Salt is produced in large quantities, but, owing to fiscal restrictions, not exported.

The imports for the same year were:

Article.	Value.	Article.	Value.
Cotton piece goods	$126,675	Rice	$30,360
Woolen manufactures	85,350	Canned goods	20,065
Cotton yarn and thread	79,901	Coal	18,275
Leather	75,970	Glassware	17,230
Lumber	62,780	Soap	29,930
Olive oil	61,530	Coffee	29,500
Petroleum	60,729	Sacks	27,440
Tobacco	57,513	Machinery	26,270
Sugar	55,710	Vetches	21,815
Iron and steel and manufactures of	55,500	Paper and stationery	21,280
Butter	37,385	Fish	18,985
Wheat flour	31,095	Silk manufactures	17,755
Haberdashery	30,680		

The trade, according to countries, for the year 1899 was distributed as follows:

Country.	Imports.	Exports.
Great Britain	$420,925	$328,285
Turkey	501,830	356,990
Egypt	173,780	436,800
Austria	190,800	78,275
France	95,575	252,965
Greece	52,050	25,820
Italy	36,820	26,140
Germany	40,045	115
Russia	36,630	9,620
Belgium	26,700	600
Roumania	4,745	9,570
Sweden	4,565	....
Brazil	4,135	....
United States	1,595	11,670
Other	1,710	1,420
Total	1,588,905	1,538,270

American interests in Cyprus are as yet unimportant. The exports to the United States consist of small quantities of skins and wool. Recently, Cyprus cigarettes have been added, while the imports from the United States to Cyprus are mostly machinery. A few carriages and bicycles have also been imported. If some way of shipping direct to Cyprus, without transshipment, could be devised, many kinds of American goods could be introduced, as cotton fabrics, leather, lumber, iron and steel manufactures, flour, notions, paper, canned goods, coal, glassware, beer, copper, drugs, agricultural implements, and mechanic's tools. There is also an opening in Cyprus and other islands of the Turkish and Greek archipelagoes for the introduction of modern American windmills. Travelers between Beirut and Constantinople can not fail to notice the surprisingly large number of antique windmills which contribute to make Cyprus, Rhodes, Crete, Samos, Scio, Mytilene, and other islands on the way so picturesque. Commercial travelers representing American houses should stop off at Cyprus and other islands mentioned, when they visit the Levant. In the meantime, correspondence may be addressed to the following Cyprus importers: P. J. Louisides & Co., J. Pierides & Co., A. Kanaan & Sons, and John Louisides, esq., all in Larnaca, Cyprus.

Especial attention should be accorded the agricultural situation and the introduction of modern farm machinery and implements. Cyprus is essentially an agricultural island, but is still, to a considerable extent, employing antiquated farming tools and methods. The people are, however, ready for reforms.

Under British administration, progress is being made, roads have been built, great irrigation works for the storage of water have been completed in the Messaoria plain, a harbor is being planned for Famagusta, a contract has been entered into with the Austrian Lloyd for a weekly steamship service between Cyprus and Alexandria (for which the Cyprus government pays an annual subsidy of $8,760), and a railroad to connect Larnaca, Nicosia, and Famagusta is being considered; also a central bank to accommodate the farmers, who are in many instances at the mercy of usurers. Nor should it be forgotten what the present administration of Cyprus has accomplished in the way of reclothing mountains and plains with forests—so vitally important in hydrological and sanitary respects. It has been asserted that during the Venetian period (1487–1571) the population of Cyprus was about 1,000,000. The massacres of 1764 and 1823 and other calamities reduced the number to little more than 100,000 at the time of the English occupation. In 1871, Cyprus was brought into telegraphic communication with the rest of the world by means of a submarine cable to Latakia, on the Syrian coast.

For the last twenty-five years the United States has had no consular representative in the island.

DEMAND FOR COTTON SHEETINGS.

Samples and prices of cotton sheetings are desired by Claes G. de Peyron, esq., of No. 1 rue Jemmappes, Marseilles, representing one of the most important importing houses of the Red Sea. Bills will be paid against the delivery of documents, and if satisfactory terms can be made, purchases amounting to 2,000,000 francs ($386,000) per annum will follow. Mr. De Peyron is interested in the matter as a broker, his brokerage to be paid by the seller. Prices c. i. f. Aden are required. A rather interesting circumstance in connection with this matter is that Mr. De Peyron has been endeavoring for a number of months to establish an American connection. Although supplied by me with the addresses of several American manufacturers, and prepared himself to furnish the usual guaranties of reliability, he has found all of his correspondents unwilling to assume the responsibility of engaging in this foreign trade direct. One of his correspondents in America states the case for the trade in general in the following language:

> We are in receipt of your favor of the 8th instant, and in response beg to state that we employ no foreign agents. While we are constantly making large shipments to foreign markets, the goods are without exception purchased and paid for here, the business being done through export brokers, or the agents of foreign houses resident in this country, who attend to all details of shipping, exchange, etc. You will therefore understand that we are not organized to do business direct with your markets, and must decline your courteous proposal.

Other manufacturers with whom Mr. De Peyron might have concluded a profitable arrangement refer him to their selling agents in New York, and as it appears that groups of mills in certain sections of the country have handed over their selling business to particular brokers or agents in New York, who in turn are already allied with other buyers in Europe, they are not free to discuss terms and prices, and the effort of Mr. De Peyron, for the several reasons above indicated, has proved abortive.

At the risk of seeming presumptuous in venturing to advise those engaged in a branch of business which has made such progress and increased so enormously as that of manufacturing and selling cottons, I submit the foregoing to the consideration of whom it may concern. In this particular instance, the contract has formerly been placed by a foreign house located in New York, acting through another house in Europe, which in turn operates directly with the purchaser. The effort of Mr. De Peyron is to unite manufacturer and seller with the payment of a single commission to himself, in lieu of three or four commissions at present paid on the same business, of which only one remains in the United States. The complicated method of exporting cottons from the United States has its counterpart in many other branches of trade, and whether it is to the advantage of our commercial interests, all things considered, to encourage this multiplication of commissions, and the existence of this gulf between manufacturer and consumer, bridged by from one to half a dozen brokers, is a matter for study. While the brokerage system is permanently established in Europe, and to such an extent that buyers and sellers in cities like Marseilles, who know each other perfectly well, dare not engage in any transaction without the assistance of a broker who receives a commission from both sides, it is nevertheless recognized in this country that the process is in some respects illogical and expensive.

I inclose sample of the merchandise desired.*

ROBERT P. SKINNER,
Consul-General.

MARSEILLES, *June 19, 1901.*

COGNAC INDUSTRY OF MALAGA.

The rapid development of the cognac industry of Malaga is attracting considerable attention. For the first time, the famous French cognac of commerce has much to fear in this competition. That the Malaga cognac has many advantages is readily admitted. According to expert opinion, it is what the French cognac used to be before the great demand for that famous article resulted, as is alleged, in the practice of blending and consequent deterioration of quality. The growth of the Malaga cognac industry is due to the absolute purity of the product. Nothing is so cheap in Spain as the delicious grapes from which the brandy is distilled, and the introduction of any foreign compound—such as alcohol of grain—would be infinitely more expensive than the exclusive use of the grapes themselves. The process of distillation is precisely the same as that used in the manufacture of the French article. Indeed, all the machines in use came direct from Cognac. The result, as above stated, is a cheaper yet absolutely pure product, which is finding an extensive market not only in continental Europe, but in England and Canada.

---

*Filed in the Bureau of Foreign Commerce, where it may be examined by parties interested.

The taste of the Malaga cognac differs very slightly from that of the French production, and is quite as agreeable.

The French system of grading by the "*" mark is also used. The three popular grades are those indicated by the one-star, two-star, and three-star labels. The one-star brandy must be at least two years old, the two-star four years old, and the three-star eight years old.

The prices in Malaga, per case of one dozen quarts, are as follows:

	Pesetas.
One-star	26=$3.60
Two-star	32= 4.40
Three-star	40= 5.40

These prices f. o. b. Malaga are about 30 per cent less than the French cognac of similar grades f. o. b. Cognac.

Following is a certified analysis of the one-star (two-year-old) brandy:

		Per cent
Density of the cognac		0.941
Alcohol from wine	in volume	47
Dry extract at +100° C	gr. per liter	19.295
Ashes		.07
Glucus		17.76

BENJ. H. RIDGELY,
Consul.

MALAGA, *July 20, 1901.*

ANTWERP IVORY MARKET.

The third quarterly sale of this year was held on the 31st ultimo, the ivory offered and sold being as follows:

	Pounds.
Kongo:	
Hard	126,932
Soft	2,806
Angola	906
Gaboon	5,765
Kamerun	7,356

	Pounds.
Ambriz	9,085
Egyptian, soft	2,541
Senegal	2,127
Benguela	1,307
Zanzibar, soft	165
Mozambique	16
Total	159,006

The totals for the corresponding quarter of preceding years were:

	Pounds.
1900	171,298
1899	160,732
1898	139,011
1897	94,980
1896	136,685
1895	122,152
1894	158,142
1893	78,395

There was a large attendance and the bidding was active.

It is to be noted that the white varieties, which had been bid up to exaggerated prices on the last sale by American buyers, were not maintained, the prices of $4.63 to $5.35 being paid only for the sound tusks.

The colored varieties—Angola, Gaboon, and Kamerun—obtained the same prices as at the sale of May last. For oversizes and tusks for bangles, prices were well maintained, for some grades there being an increase of 19 cents per kilogram (2.2046 pounds). For scrivailles, prices advanced by 9 cents; and the tusks for balls, in great demand, were bid up from 19 cents to 58 cents over last prices.

The stock on hand amounts to about 279,984 pounds, as compared with 209,437 pounds in 1900.

The next quarterly sale is to take place on the 29th of October, 1901.

GEO. F. LINCOLN,
Consul-General.

ANTWERP, *August 6, 1901.*

FINANCIAL SITUATION IN BRAZIL.

Minister Bryan, of Petropolis, under date of July 3, 1901, reports the expiration of the Brazilian "funding-loan arrangement." He says:

Official statements show that the finances of this country are upon a more solid foundation than for years past. Specie payments of the foreign gold obligations have been resumed; Brazilian securities have risen from 45 per cent to 75 per cent of par; the volume of paper money has been diminished from 788,000 contos* to 689,000 contos; the sterling value of the milreis has risen from 5⅝d. to 11½d. (11.25 cents to 23.3 cents); the import duties, formerly all payable in a depreciated and fluctuating currency, are now collected 25 per cent in gold and 75 per cent in paper, being an actual value equivalent to 45 per cent and 55 per cent respectively; £1,000,000 ($4,866,500) have been paid on the 1897 emergency loan, completely extinguishing that obligation; 21,000 contos ($11,500,000 par) of treasury bills outstanding July 1, 1898, have been paid off, and their issue is now no longer resorted to; £2,500,000 ($12,166,250) of internal gold-interest-bearing bonds have been paid off or exchanged into currency obligations; and, finally, important reductions have been made in current administrative expenditures.

---

*The conto equals 1,000 milreis.

On the other hand, the net gold debt has been increased by over £5,000,000 ($24,332,500), and the fixed charges payable in gold for interest and railroad guaranties have risen from £3,066,000 to £3,357,000 ($14,920,689 to $16,336,841); importations have fallen off heavily; internal taxes have been increased; the rise of the sterling value of the milreis has lowered the currency price of exports; and the contraction of the circulation has apparently had an influence in limiting commercial operations. This period of stringency is already beginning to moderate, and the process of the adjustment of prices and credits to sounder currency values is proceeding normally.

Altogether, the Brazilian Government has remitted to London £4,828,432 ($23,497,564) since July 1, 1898; of this sum, £1,000,000 ($4,866,500) has been spent in paying off the 1897 loan, £587,530 ($2,859,215) for interest on the funding-loan bonds, and £1,056,000 ($5,139,024) for past due obligations, payments on war ships, current expenses, and commissions on the issuing of loans. In addition, £700,000 ($3,406,550) have been advanced to the Bank of the Republic. The average of gold accumulations has therefore been £161,000 ($783,507) a month. It is officially estimated that for the ensuing months the gold remittances will be £250,000 ($1,216,625) a month. This will absorb the import taxes payable in gold. Interest and railroad guaranties amount to £335,000 ($1,630,278) monthly, but this difference is insignificant in view of the large balance already accumulated.

It is therefore clear that a continuation of the policy of the present administration will result in Brazil's meeting promptly her foreign obligations.

For interest on the internal debt, the continuation of the withdrawal of paper money, and the administrative expenditures, she must look to her paper revenue. The Government estimates for these purposes are well within the expected revenue, and show very large reduction from the expenses of past years.

TRADE OF PERU IN 1900.

Under date of June 22, 1901, the Department has received from Minister Dudley, of Lima, a review of the export trade of Peru during 1900, showing an increase in the total of 46.4 per cent compared with the preceding year. The tables are based upon official statistics taken from the customs. As the exportation by Iquitos is not yet known, the figures given represent only the exportation by the Pacific ports:

Exportation during 1900	$21, 860, 278
Exportation during 1899	14, 932, 792
Difference in favor of 1900	6, 927, 486

The following are the articles which increased as compared with 1899:

Increase over 1899.

Article.	Value.	
	*Soles.**	
Minerals	6,283,545	$3,053,803
Sugar	4,454,907	2,165,085
Cotton	1,473,265	716,006
Cocaine	486,705	236,439
Hides	302,137	146,839
Rice	212,446	103,249
Coffee	170,261	82,746
Coca	165,838	79,579
Live animals	143,703	69,840
Alcohol	132,678	64,471
Coined gold	33,580	16,319

* 1 sol=48.6 cents.

The rise in the price of copper has given a great impulse to mining, and the shipments of copper to Great Britain during 1900 have been so considerable as not only to offset the decrease in silver exportation consequent upon its fall in price, but to increase the total exportation of minerals to the extent of 6,283,545 soles ($3,053,803). Sugar has followed its normal development and been favored with better prices than in 1899. The exportation of cotton during 1900 was remarkable. The increase of price in Europe encouraged its cultivation, there having been exported during 1900 1,370 tons more than during 1899. The total exportation during 1900 amounted to 7,246 metric tons; and if it is considered that the six cotton-drill factories (Tocuyo) in Peru produce each year about 300,000 pieces of 40 yards each (12,000,000 yards), representing a consumption of approximately 1,400 tons, the total production of cotton may be estimated at somewhat more than 8,600 tons. The articles whose exportation has decreased are very few. Salt has suffered in competition with Colombia. The decrease in the exportation of wool is worthy of attention, for there can be no doubt that Peru could easily export more than the 3,534 tons to which the total exportation of 1900 amounts. Four years ago the exportation amounted to 3,768 tons, and although since then the factories of woolen fabrics have increased the consumption, the wool industry remains the most backward and stationary of all the national industries. If the exports of Iquitos are added and also the value of the commerce over the frontiers with the neighboring republics, the value of all the exports during 1900 may be estimated at 50,000,000 soles ($24,300,000) in round numbers. The following tables, in which neither the value nor the tonnage of the guano exported is represented, give the chief articles of the export trade in 1900:

Export trade of Peru, 1900.

Article.	Quantity.	Value.	
		Soles.	
Alcohol ... gallons	337,653	230,066	$111,817
Wine ... do.	276,146	104,531	50,802
Rum ... do.	95,631	81,377	39,549
Cotton ... tons	7,987	3,260,743	1,583,721
Rice ... do.	4,696	639,038	300,572
Sugar ... do.	122,019	14,558,426	7,075,395
Borax ... do.	7,804	566,377	274,159
Cacao ... do.	109	59,576	28,954
Coffee ... do.	1,602	654,312	307,996
Coca ... do.	623	339,438	164,967
Cocaine ... pounds	16,479	1,161,780	563,625
Live animals		178,120	86,566
Hides ... tons	3,291	1,085,586	527,594
Provisions		213,707	103,862
Wools		2,966,733	1,440,732
Honey		57,934	28,156
Minerals ... tons	43,430	16,950,558	8,137,975
Cotton and cotton seed ... do.	8,285	197,920	96,189
Salt		14,464	7,029
Hats		138,645	67,372
Bullion and coined gold		40,040	19,459
Bullion and coined silver		202,839	98,579
Other	3,414	730,427	354,988
Total		44,979,995	21,860,278

Exports by countries, 1900.

Country.	Value.	
	Soles.	
Great Britain	20,892,687	$10,153,836
United States	9,548,966	4,640,796
Chile	6,105,203	2,967,049
Germany	5,159,930	2,507,726
France	1,204,683	585,465
Bolivia	995,820	483,969
Ecuador	444,040	215,802

Exports by countries, 1900—Continued.

Country.	Value.	
	Soles.	
Colombia	417,839	$203,070
Italy	55,863	27,148
Central America	55,453	26,950
China	35,549	17,277
Spain	32,008	15,556
Cuba	8,100	3,937
Argentina	2,327	1,131
Other	21,528	10,463
Total	44,979,996	21,860,278

Under date of July 2, Mr. Dudley transmits translation of an additional article, extracts from which follow:

The exports to different countries were distributed in the following proportions:

Country.	1899.	1900.
	Per cent.	*Per cent.*
United Kingdom	50.44	46.49
United States	4.49	21
Chile	18.54	13.7
Germany	7.49	11.47
Ecuador	3.89	.99
France	3.8	2.68
Bolivia	.18	2.21
Colombia	1.46	.93
Other	7.71	.53
Total	100	100

The greatest increase has been to the United States. In 1897 alone, our exports to that country amounted to 4.49 per cent of our total exports by the Pacific route, and in 1900 amounted to over 20 per cent of the total; this is mainly due to the establishment of countervailing additional duties on sugar in that country. This customs measure has the effect of favoring one of the principal articles of export from South America.

The following table gives an exact idea of the development of our export trade with the United States during the last four years:

Article.	1897.	1900.
	Pounds.	*Pounds.*
Cotton	534,287	3,094,670
Rice	....	61,123
Sugar	2,497,417	127,513,429
Coffee	55,558	302,167
Coca	304,151	509,673
Cocaine	536	1,016
Hides	358,975	1,188,209
Sheep's wool	22,101	21,876
Ores	3,527,360	1,710,355

FREE IMPORTS INTO YUCATAN.

Consul Canada writes from Veracruz, July 26, 1901, that the Government of Mexico has issued a decree exempting from the payment of customs and additional duties, as well as from port dues and the 7 per cent interior or stamp tax, for one year from July 1, 1901, certain articles imported through Chetumal, on the east coast of the State of Yucatan. Merchandise imported in accordance with this decree can not be sent beyond the limits of a certain zone, which are to be determined by the officer in command of the troops operating in the surrounding country.

The following is a list of the articles, the accompanying numbers indicating the section of the tariff of 1891 in which they are included:

(2) Horses.
(3) Stud-horses, mares, and colts more than 1 year old.
(4) Hogs and young pigs.
(5) Neat cattle and their young.
(6) Goats and sheep.
(7) Mules.
(8) Donkeys.
(9) Sucklings of the stock specified.
(10) Fresh beef, mutton, pork, and fowls.
(11) Fresh fish, even when preserved in ice.
(12) Smoked or salted meats.
(13) Salt, smoked, dried, or pickled fish and shellfish.
(41) Sausages of all kinds and ham in salt.
(42) Preserved meats, fish, oysters, lobsters, etc.
(46) Hog's lard.
(47) Butter.
(49) Cheese of all kinds.
(64) Cod-liver oil.
(76) Harness of all kinds, for wagon or carriage teams.
(88, 89, and 90) Shoes made of leather or cloth, not containing silk, although they may have elastic, and trimmings not made of gold, silver, or platinum, without regard to length in the sole.
(135) Coffee.
(141) Fresh fruit, vegetables, and tubercules, not specified.
(142) Fruit, vegetables, and tubercules, not specified, preserved.
(143) Corn.
(144) Pepper.
(145) Alimentary seeds and grains, not specified.
(146) Wheat and other cereals, not specified.
(148) Medicinal seeds and berries.
(148) Medicinal seeds and berries, pulverized, scraped, or in cakes.
(164) Roots, barks, flowers, herbs, and other medicinal leaves.
(164) Roots, barks, flowers, herbs, and other medicinal leaves, pulverized, scraped, or in cakes.
(168) Olive oil in jars or in tin cans.

(169) Olive oil in glass bottles.

(170) Common or refined sugar.

(174) Crackers of all kinds.

(175) Flour of wheat and other cereals.

(177) Alimentary pastes of flour.

(179) Camphor.

(189) Starch.

(202) Ordinary lumber for building purposes, cut in boards or planks, tongued and grooved.

(207) Ordinary wooden goods, coarsely worked, not specified.

(247) Furniture of common wood, roughly made

(311) Iron wire for fences.

(313) Plows and plowshares.

(319) Agricultural implements, such as picks, scythes, sickles, rakes, shovels, hoes, spades, machetes without sheds, etc.

(359) Common and hydraulic lime, Roman and Portland cement.

(387) Adobes (sun-dried bricks).

(400) Bricks and paving blocks of clay.

(458 and 459) Cotton stuffs, crude or unbleached, of plain texture.

(460 and 461) Cotton goods, printed, stamped, or dyed, of plain texture.

(469) Fabrics or articles of cotton, netting not specified, without or with small ornaments of any substances not being fine metal.

(472) Drawers made of cotton, for men and boys.

(473) Cotton shirts, under and outer, for men and boys, even if they contain small ornaments of wool or silk.

(492) Ready-made clothing not specified, when sewed, made of cotton of all kinds and textures, with or without trimmings of lace, or embroidered with trimmings of cotton or linen, silk tape or ordinary metal, for grown people or children.

(508) Cloth made of jute, ixtle, abaca, pita, henequen, New Zealand fiber (phormium tenax), or hemp, whether white, dark, or colored, containing thirty-two threads of warp and woof in a square of 2 centimeters per side, and of a weight not over 400 grams the square meter.

(509) Cloth made of linen, hemp, or other similar fibers, white, dark, or colored, of plain texture, when over twelve threads in warp and woof in a square of 5 millimeters per side.

(510) Cloth made of linen, hemp, or other similar vegetable fibers, whether white, dark, or colored, not smooth woven, openworked, or embroidered.

(522) Drawers of linen, for men and boys.

(523) Shirts of linen, for men and boys.

(541) Ready-made clothing and its loose parts made of linen of all kinds and textures, with or without embroidered trimmings, silk ribbons or of common metal, for adults or children.

(556) Woolen goods of all textures, with or without embroidery of wool, cotton, or linen, or when brocaded with silk or false metal, when the square meter weighs not over 100 grams.

(661) Natural alkaloids, not specified, and their salts.

(665) Antiseptic cotton.

(666) Liquid or concrete ammonia.

(673) Medicine chests.

(675) Capsules, pearls, globules, lozenges, granules, pills and medical comfits, and the empty capsules of gelatin or wafers.

(676) Carbonate and bicarbonate of potash or soda.

(678) Common or photographic collodion of any formula.

(680) Chloral.
(682) Chloroform.
(689) Medicinal drugs, chemicals, and pharmaceutical products not specified.
(701) Morphine.
(705) Pastes, lozenges, and medicinal jellies.
(706) Pepsin.
(707) Permanganate of potash.
(709) Medicinal compound powders.
(711) Quinine and other alkaloids of cinchona.
(712) Common or table salt.
(715) Salts and oxides of all substances not specified.
(728) Medicinal wines, whether or not patented.
(729) Iodine.
(730) Iodoform.
(793) Tools of all kinds and materials for workmen.
(800) Steam engines and their extra pieces.
(801) Machinery and apparatus for any kind of use or object, and their loose parts, when not arranged to be moved by crank, pedal, or lever.
(802) Machinery and apparatus and their loose parts for industry, agriculture, mining, and the arts, when arranged to be moved by cranks, pedal, or lever.
(815) Wagons, trucks, and carts, without springs, for carrying freight.

CHICLE GUM IN MEXICO.

The so-called chicle gum of commerce is the sap that exudes from wounds made in the rough bark of the tree. This sap, of a milky whiteness and consistency when it first issues, partly coagulates after continued exposure to the air, but becomes, after boiling, a hard, heavy mass. It is in this state that it is known to commerce.

The achras sapota (white sapota), known to the Maya Indians of Yucatan as "ya," is the tree that yields the milky sap. It is found growing all over Yucatan, sparsely in the north and west, but in belts of increasing size as one penetrates into the rich northeastern and southern section of the peninsula.

Under favorable conditions, the tree grows to a height of 70 feet or more. With its dark evergreen crown of glossy leaves, the tree is always a prominent landmark in the monotony of the surrounding forest. The fruit much resembles a russet apple in color and general appearance, but has a flavor wholly its own.

From May to June, bands of men under experienced leaders get together their outfits and go into the deep forests of Yucatan as "chicleros." A chiclero is one who extracts the well-known Yucatan gum, or chicle, from the tree, and after several months of work in the tropical forest emerges with the large bricklike blocks of the hardened gum.

A rope, seven-eighths of an inch in diameter and 28 yards long, of special strength and make (for the life of the chiclero literally, as well as figuratively, depends upon it), a long heavy knife or machete of special make, pails for the crude sap, and ladles for dipping it are the articles of the individual outfit.

The general camp, or central station, where the chicleros gather at least once a day, contains, besides the usual paraphernalia of a large camp in the woods, large boiling kettles to cook the crude sap when brought in by the chicleros, box molds to shape the hardening gum after the cooking process, and scales with which to weigh the formed and dried blocks before it is placed to the credit of the chiclero. A large chicle camp in full operation, with its kettles of boiling sap and general air of industry, bears a certain resemblance to a northern maple-sugar camp.

The gum itself, as I have stated, is obtained by cutting canals in the rough bark, down which the sap flows into receptacles below. These canals, if cut by unskillful hands, may not only fail to extract the sap, but may ruin the tree as well. A healthy, well-grown tree may be tapped once every three years, but even then, and under expert handling, at least 15 per cent of the trees will die.

Large tracts of sapota forests near Tuxpan, the original base of supply of the product, have become of late years practically unavailable from this cause. The average tree will yield about 6 pounds of the gum, but often tree after tree, even in the most favorable season, will be tapped and not yield enough to pay for the work. Why this is so, no one knows, although every chiclero has his pet theory to account for it.

When the sap is collected, it is brought in pails and buckets to the central camp for boiling and molding. The boiling is done by practiced hands, closely watched by vigilant inspectors. This vigilance is necessary to prevent the chicleros introducing foreign materials during the cooking. Stones of various sizes and often dirt are found in the center of the blocks, despite all care. The men are paid by the pound for the finished product and naturally wish to increase the weight. The gum when undercooked becomes quite hard, but contains a large percentage of water.

First-class well-cooked chicle is nearly white when fresh and clean. Red gum is produced when the gum is overcooked, though some trees yield a gum which has a distinctly red color, even when well baked.

The perfect chicle gum is tenacious, firm, aromatic, and very elastic. It is estimated that there are to-day 700 chicleros in the woods, and that the product this season may reach 1,000,000 pounds.

During the year 1900, 900,000 pounds of chicle were exported from the ports within this consular district. Ninety-eight per cent went to the United States; the remainder to France, England, and Germany.

The finest class of chicle, like the large hammock of Yucatan, is not known to commerce, being all required for home consumption.

This gum, called "sicte" by the natives, is produced by picking the unripe fruit of the sapota and collecting the thick drops of milky-white sap that accumulate in the wounds made therein.

The work of collecting the sicte is tedious and is generally done by the women, but the product is the perfection of chewing gum. It can not be purchased for less than $1 a pound, and as a rule it costs more. It is highly aromatic, extremely elastic, and snow white.

EDWARD H. THOMPSON,
Consul.

PROGRESO, *July 1, 1901.*

CORUNDUM DEPOSITS OF CANADA.

Consul-General Bittinger, of Montreal, sends the following:

Corundum is an article of great use in the industrial world for its very high abrasive powers, being used instead of emery as a grinding material. Emery is, in fact, but an impure and, consequently, much inferior grade of corundum.

Corundum, until recently, was very little used, as the expense of its mining and its rarity kept its price too high for general use. But the deposits in Ontario are of such value and are so easily worked that it is expected it will henceforth be placed on the market at a more reasonable price. Corundum is a compound of aluminum, and is of the same material as the sapphire and ruby, merely lacking their brilliant colors.

The Ontario deposits lie north of Kingston, and cover a large area. The corundum occurs along with mica and other substances. It is tamped up into powder and separated from the rest of the rock by washing, its weight being much greater than that of the other constituents of the rock. The deposits have only recently been discovered, and are as yet almost undeveloped.

A company is starting to work some of the deposits purchased from the Government. The specimens so far tested have proven rich, and the extent of the deposits is probably quite large, though that has not been thoroughly investigated. There is no impediment in the development of these mines at present. They are easily worked, rich in the mineral, and conveniently situated, so that transportation will be cheap.

With the discovery of the corundum deposits in such pure condition has arisen the somewhat vague hope that its more precious relations, the ruby and the sapphire, might also be found in the same region, and this has led to considerable investigation. In some places corundum has been found which shows plainly the blue line of the sapphire, but as yet no real gems have been discovered.

Corundum of a very high grade—viz, 95 per cent pure—is now being produced at Combermere by the Canada Corundum Company. When it is remembered that manufacturers have heretofore been satisfied with an 80 per cent product, the outlook for the Canadian industry seems bright.

The Canadian deposit is found in the Apalachian Mountain range which runs through the eastern townships of Quebec, and as the rock formation is the same as in North Carolina, there is every reason to believe that corundum exists there also.

MINING IN ONTARIO.

The tenth annual report of the bureau of mines of Ontario has just been published by the Provincial Crown Lands Department. In addition to a comprehensive general report setting forth the details and prospects of each branch of mining, the director of mines gives full particulars as to the output of the year.

No branch of industry has made greater strides in the Province during the last few years than that of mining. The increased information now accessible as to the location and extent of the vast mineral resources of new Ontario which await development is most interesting and valuable.

The report says the output of minerals for 1900 had a total value of $9,298,624, showing an increase of nearly 10 per cent over the yield of the preceding year, which was valued at $8,416,083. The number of workmen employed was 10,934, an increase of 9 per cent, and the amount paid in wages, $3,366,601, an increase of 15 per cent over the corresponding figures for 1899. A satisfactory feature of the situation is that the list of mineral products is growing, in addition to the increase in the volume of production in the staple items. Three new industries appear for the first time in the returns, namely, work in corundum, feldspar, and steel—all as yet, of course, in the infant stage. The value of the steel output was $46,380 and that of the three combined $57,380. In addition to the figures for the past year, partial statistics relating to the metal production for the first three months of 1901 are also given, from which it appears that the current season is likely to show a considerable further increase in the volume of production, more especially in iron, nickel, and copper mining. The total metallic output of the three months was

$827,860, as compared with $2,541,131, the yield of the same metals for the entire year of 1900.

A very notable advance is recorded in connection with the iron mining and smelting industry, which may be said to have entered upon a new era in consequence of the opening of the great Helen mine in the Michipicoton division, concerning the operations of which full information is given. The total production of iron ore was 90,302 tons from 12 mines, valued at $111,805. The increase over the previous year was 73,391 tons in quantity, and $80,854 in value. The employees numbered 438, and the wages paid aggregated $107,583, as compared with 100 men and $26,700 in 1899. The total production of pig iron was 62,386 tons, showing a slight falling off in quantity; but owing to the considerable increase in the price, the value, amounting to $936,066, was $127,909 in excess of that for the year previous. Most of the ore smelted was imported from the United States; 22,887 tons, or 23 per cent, came from Ontario mines. With the opening of mines in the Michipicoton district, where an adequate supply of hematite ore is available, the proportion of native ore smelted is growing steadily larger, and during the first three months of 1900 had risen to 43 per cent. The number of workmen employed in the blast furnaces last year was 419 and the wages paid $97,915, as against 200 men and $79,869 in 1899.

The provincial government bounty paid for the manufacture of pig iron out of native ore was $6,737 in 1900, and the aggregate paid during the last five years has been $34,741. The discovery of the extent of the iron-bearing region, which is now known to include a large area east of Lake Nepigon, presenting a rock foundation similar to that characteristic of the iron regions to the south of Lake Superior, has greatly stimulated the explorations, which are being conducted on an extensive scale in the hope of locating deposits which can be worked to advantage. The work is considerably expedited by the use of the Government diamond drills.

A very substantial and encouraging increase in the nickel and copper productions is shown, last year's nickel output being 3,540 tons, valued at $756,626, as compared with 2,872 tons, worth $526,104, in 1899. Copper yielded 3,364 tons, valued at $319,681, as against 2,834 tons, of the value of $176,236, for the previous year. These metals are exported in the form of matte, to be refined abroad, and the values of the finished metal are considerably greater. The workmen employed numbered 1,444, of whom 350 were engaged underground. They received wages amounting to $728,946. In 1899, the number of men employed was 839; wages paid, $443,879.

The production of gold has somewhat declined, owing to the cessation of work at several mines. The yield for last year was 18,767 ounces, worth $297,861; that for 1899 being 27,594 ounces, valued at $424,568. The year's output came from 18 properties, employing 750 men, the wages paid aggregating $350,694. A promising gold-bearing region has been discovered near Sturgeon Lake, where free gold has been found. The yield of silver is increasing; 160,612 ounces, valued at $96,367, were taken out, as compared with 105,467 ounces, with a value of $65,575, in 1899.

There is a marked increase in the production of cement, the value of the output being $698,015, or $136,749 over the figures for 1899. Mica has also risen from $38,000 to $91,750, owing to the discovery and operation of large deposits in eastern Ontario. Petroleum and its products show an increase from $1,747,352 to $1,869,045, while the production of natural gas is on the decrease, though eleven new wells were drilled. The value of the building materials produced was $2,689,351, showing a slight increase.

Among the other valuable matter appearing in the volume is a report by Prof. A. P. Coleman on the iron ranges of the Lower Huronian, in which he compares the geological structure of this region with that of Michigan and Wisconsin. The volume is well arranged and carefully indexed, and contains numerous illustrations of mining. It will be found of practical value by all concerned in mining or metal-working operations.

A. G. SEYFERT,
Consul.

STRATFORD, *August 2, 1901.*

CONDITIONS IN DAWSON.

Dawson is improving rapidly; modern dwellings and warehouses are going up, a new court-house is about completed, and work has been started on the new administration buildings and a residence for the governor.

Notwithstanding the long, cold winter, there was a continual flow of pure water from a well sunk on the bank of the Klondike River. The water is pumped direct into the mains from the well, under such pressure that the pipes are kept open. Taps are located on the sidewalks all over the city.

Ice costs only 2 cents per pound, or $40 a ton, the lowest price this luxury has been in any summer yet. Rents are not lower, but in the near future they will probably be reduced.

The gold output will, it is said, fall short of the estimate made earlier in the year, one reason being the long winter. I think $20,000,000 a fair estimate for this year's product. Many of the richest claims have not yielded as much this season as formerly.

While there is a very large gold-bearing area in this Territory, the miners must learn to work more economically.

On the Hootalinqua River and at other points there are good indications, but the prospectors will not go there yet, as the grounds are too far away from a base of supplies. After the placer mines near Dawson are worked out—say, in ten years—the attention of the miners will be turned to fields in this Territory not yet opened up.

By orders from Ottawa, the whole country has been thrown open for prospecting, no claims being reserved for the Crown, as formerly.

The royalty on the gross output of the mines has been reduced from 10 per cent to 5 per cent.

In taking gold out of the Territory, a certificate from the gold commissioner is required, stating that the royalty has been paid thereon. This is given to the police at White Horse before one is allowed to leave on the train for Skagway. Without this certificate, the dust is liable to confiscation.

The Government is building good roads to the mining sections near Dawson, which will be of great advantage to the operators, as their supplies can be handled at less cost. Good roads are badly needed in the mining country in Alaska.

Encouraging reports are heard from Chandlar River in Alaska, some 100 to 150 miles north of Fort Yukon; also from Charley River and other points. When the miner can get his supplies at reasonable rates, it will be found how rich this part of Alaska is.

J. C. McCook,
Consul.

Dawson City, *July 8, 1901.*

NOTES.

Strikes in British Columbia.—Consul Dudley writes from Vancouver, July 4, 1901:

The difficulties between labor and capital in this Province have paralyzed business to an alarming extent.

The salmon fishermen are on strike, demanding higher prices for the fish. The salmon are now running, and few fishermen are out. In the long run, this may be advantageous to the fishing industry, as a much larger number of fish is likely to reach the spawning grounds than would be the case were the fishermen at work. This may result, some four or five years hence, in a much larger run.

The trackmen of the Canadian Pacific Railway are on strike. The railroad people think that a settlement may be reached at an early date.

At Rossland, all the employees at the Northport smelter are on strike. During the shut down of last year, some 2,000 men left to seek employment elsewhere, chiefly in the United States. If the present trouble is long continued, there will again be a similar exodus. Many of the miners are American citizens.

In later reports, the consul says that the fishermen have resumed work; but the recurring troubles with the canners may lead to the establishment of traps to take the place of boats.

The Rossland difficulty is serious. The mines have been shipping 10,000 tons of ore weekly, and if the strike continues business there will be at a standstill.

Bonded Warehouses in Mexico.—Consul Canada, of Veracruz, July 17, 1901, says:

It is reported that the "Banco Central (Central Bank), the "Banco Mercantil de Veracruz" (Mercantile Bank of Veracruz), and the "Compañia Bancaria Anglo-Mexicana" (English-Mexican Banking Company) have entered into a contract with the Mexican Government for the purpose of erecting bonded warehouses in the City of Mexico and at the port of Veracruz. The three banks mentioned have formed a company under the name of "Almacenes Generales de Deposito de Mexico y Veracruz, South America." The Mexican Government will rent this company grounds for the purpose of erecting warehouses near the custom-house at the City of Mexico and near the wharves in the port of Veracruz. In these bonded warehouses merchandise will be accepted which has been entered at the custom-house, as well as that which is to be entered afterwards; and owners will be allowed to withdraw whole consignments, or parts thereof, according to their convenience or need. Articles that are not salable and have not been entered at the custom-house will be allowed to be reexported without payment of customs duty. For the purpose of fixing storage rates, imported merchandise will be divided into three classes: First class will pay 30 cents per 1,000 kilograms (2,204.6 pounds) per month; second class, 20 cents; and third class, 10 cents.

Congress of Historical Sciences at Rome.—The Department has received a note from the secretary of the Italian embassy, Mr. Carignani, dated Washington, July 24, 1901, in regard to the International Congress of Historical Sciences to be held in Rome in the spring of 1902. The promoting committee asks that the Government of the United States send delegates to the congress and invites the participation of American scientists, artists, and men of letters. The congress will include all subjects of an historical character. The principal sections will be the following:

> (1) Classical archæology; (2) numismatics; (3) history of oriental and classical antiquity; (4) history of ancient literature; (5) history of ancient law; (6) mediæval and modern, general and diplomatic history—diplomatic and archivistic science; (7) history of mediæval and modern literature; (8) history of mediæval and modern art; (9) history of modern law; (10) history of economical and social science; (11) history of philosophy and of pedagogy; (12) history of religion; (13) history of geographic exploration and discovery—historical geography; (14) history of mathematical, physical, natural, and mediæval science; (15) history of musical and dramatic art; (16) teaching of history.

The programme of exercises has not yet been definitely decided; suggestions for themes will be received until January, 1902. Persons desirous of taking part in the congress will send their names either to the president of the executive committee or to the general secretary, via dei Greci n. 18, Roma, with the membership fee of 12 lire ($2.32), indicating the section in which they wish to be inscribed.

Exposition of Fisheries at St. Petersburg.—The Department has received from the Russian embassy, Washington, under date of July 12, 1901, notice of the International Exposition and Congress of Fisheries,* to be held in St. Petersburg in 1902. An invitation is extended to the United States to participate in the exposition and to send official delegates and experts to the congress. Programmes of both are inclosed.

---

*See ADVANCE SHEETS No. 1069 (June 22, 1901).

The following extracts are taken from the regulations:

The exhibition is open to Russian and foreign exhibitors. Its objects consist in (*a*) determining the actual condition of sea and fresh-water fisheries, and of other similar pursuits; (*b*) acquainting producers and consumers with the various products of fisheries and with methods of preparing and preserving the same; (*c*) exhibiting the gradual development and actual state of artificial fish breeding, as likewise the various aspects of amateur fishing and angling; (*d*) promoting scientific research pursued in the interests of fisheries.

Applications for space are to be addressed to the executive committee, 13 Bolshaya Konushennaya, St. Petersburg, in duplicate, before November 1, 1901.

Exhibits will be carried on Russian railways at a reduced rate. The exhibition will be proclaimed a bonded store for foreign exhibits. Duties will be charged on goods remaining in Russia.

German Lace Industry.—Consul Warner reports from Leipzig, July 10, 1901:

During the past ten years, Germany's lace industry has been greatly developed, especially in the cotton branch, and since the ratification of the commercial treaties the exports have increased very materially. The following table gives the imports and exports of laces and embroidery for 1891 and 1900, respectively:

Article.	Imports.		Exports.	
	1891.	1900.	1891.	1900.
Cotton	$880,600	$1,642,200	$5,146,800	$10,710,000
Linen	499,800	261,800	690,200	166,600
Silk	2,499,000	1,217,600	238,000	380,800
Wool	71,400	47,600	618,800	261,800
Total	3,950,800	3,169,200	6,693,800	11,519,200

In cotton laces, the exports have increased $5,569,000. The imports and exports of linen and woolen laces and the imports of silk laces and embroidery show a heavy decrease; on the contrary, the exports of silk laces and embroidery have enjoyed a considerable increase. England is the principal buyer of cotton laces, the exports to that country having had an extraordinary increase, amounting in 1900 to $5,283,600. The United States bought $1,261,100 worth in 1898 and $2,356,200 in 1900.

New German Giant Ships.—Vice-Consul-General Murphy, of Frankfort, under date of July 27, 1901, sends the following translation from the Berlin Südamerikanische Rundschau:

Up to the present, the world's largest ship has been the *Oceanic*, but Messrs. Harland & Wolf are now building, in England, a new greyhound for the White Star

French School in Greece.—Consul Jackson reports from Patras, July 13, 1901:

The French Government, through its minister to Greece, has made the city of Patras a proposition to establish a French school here, and the proposition has been formally accepted by the municipal council. The French Government asks the city of Patras to furnish a suitable building for the school; France will maintain the instructors, and the school will be known as the French Commercial and Agricultural School. The press of Patras and the people generally have considered the proposition in the most favorable light, but the final decision will rest with the Government at Athens, and it is possible that the action of the Patras council may be set aside.

The establishment of schools in Greece by other nations is not without precedent. The Italian Government maintains schools for its subjects in Patras, and the Czar of Russia has erected baths at Athens in connection with the Soldiers' Hospital. The proposition of France, however, is without precedent, since in the other cases the entire expense has been borne by the government represented; while in this case the burden rests largely on the Greek taxpayers.

American Trade in Africa.—Under date of June 30, 1901, Mr. Strickland, who has been United States consul at Gorée-Dakar, French West Africa, since 1883, in accounting for the fact that no exports were declared for the United States at his consulate during the fiscal year 1901, says:

The articles exported to the United States from this district during the year, embracing presumably gum senegal, gum copal, india rubber, ivory, etc., were shipped to Europe in steamers which trade regularly with this port in payment for European manufactures brought hither by the same means. It is consequently impossible to trace them for a report of the kind requested by the Department of State. Owing to the apathy of Americans in not providing steamship service under complete American control, and to the policy which seems to prevail of shutting out American goods as far as possible from Afro-European colonies, the trade of this vast continent gives very little promise of being shared to any extent by our people.

American Coal in Europe.—The Department has received from Mr. Thieriot, chargé d'affaires, of Lisbon, under date of June 26, 1901, translation of an article on American coal, published in the Lisbon Jornal do Commercio which reads, in part, as follows:

The announcement is made by cable that a trust has been formed in the United States for the exportation of coal to the Mediterranean ports to compete with English coal, which the recent export duty of 1s. (24.33 cents) per ton will raise in price. This competition would be easier than on the Atlantic ports; for, if the freight from Philadelphia to Marseilles, for instance, is 24 to 36 cents higher than the freight from Philadelphia to Havre, it must not be forgotten that the freight from Cardiff to Marseilles is 77 or 97 cents higher than from Cardiff to Havre. Vessels taking from sixteen to seventeen days to cross the Atlantic to Havre would take nineteen to twenty days to Marseilles, a difference in time of three days. On the other hand, vessels taking thirty-six to forty-eight hours to go from Cardiff to Havre would take ten days to reach Marseilles, a difference of seven to eight days. At the close of 1898, and during 1899, the Paris, Lyons and Mediterranean Railway purchased about 100,000 tons of American coal. There has been a decline in the price of English coal since 1900, making a difference in favor of English coal. It is announced that vessels of 10,000, 20,000, and even 30,000 tons will be built which will carry at the extraordinary low freight of $1.16 per ton across the Atlantic. It would seem to be more prudent to begin with smaller vessels, having first ascertained the capabilities and requirements of the ports for which they are bound.

Proposed Steamship Line between Java and America.—Consul Rairden sends the following from Batavia, May 30, 1901:

The Koninklijke Paketvaart Maatschappij (Royal Packet Company), of this place, proposes to open a steamship line between Java and the west coast of America, calling at Chinese and Japanese ports. Negotiations between this company and the Netherlands Colonial Office in relation to the amount of subsidy to be allowed by the Government have been going on for more than a month. The company, however, is not yet prepared to start this line. The question arises whether the ships will obtain sufficient cargo at the American, Chinese, and Japanese ports to make it pay. It is to be hoped that the trial will be made, and I feel confident that American merchants will be glad of this opportunity for direct shipments to Dutch Indian ports. Should this line be opened, San Francisco will be the American port of call, touching, probably, at the Hawaiian Islands on the outward and return passages.

Trade Opportunities in the Persian Gulf.—Consul Schumann, of Mainz, June 27, 1901, says that according to a German trade journal the following articles find a ready sale in the ports of the Persian Gulf:

Accordions, needles, photograph albums, matches, gold-plated steel jewelry, tobacco and cigarette cases, music boxes, wax candles, buttons, brushes, table cutlery, calico, canes, whips, shawls and kerchiefs, cement, canned goods, cottons, woolen and cotton blankets, glassware, leather, copper, cloth, blue and red ink, sponges, towels, tin, fans, crockery, artificial flowers, silks, gold lace, gloves, gauze, olive oil, lamps and lanterns, iron bedsteads, eyeglasses, sewing machines, furniture, looking-glasses, watches and alarm clocks, handkerchiefs, coffee grinders, writing materials, umbrellas, perfumery, wax pearls, decorated porcelain, pharmaceutic preparations, ribbons, salt fish, sardines, butter, soap, sugar, linen, velvet and velveteen, and wines.

Oil of Roses in Bulgaria.—Consul-General Hughes sends the following from Coburg, June 26, 1901:

According to German reports, last year's product of oil of roses in Bulgaria amounted to over 140,000 ounces. Rose leaves cost from 10 to 15 pfennigs (2.38 to 3.57 cents) per kilogram (2.2046 pounds), and the oil of roses sold for the abnormally cheap price of 460 marks ($109.48) per kilogram. In 1896, with an equally good crop, the price was 800 marks ($190.40) per kilogram. The pure Bulgarian oil of roses is perfectly transparent and of a light yellow color, with the perfect odor of the Damascus rose. The only competing oils are those of Miltitz, in Saxony, Germany, and of Chinchilla, in southern Spain. The Saxon oil is of a yellow-gray color; the Spanish variety is quite brown, with a strong sherry-like odor.

Artificial Leather.—Consul-General Hughes writes from Coburg, July 11, 1901, that, according to the German press, fibroleum, a new artificial leather, has just been invented by a Frenchman. It consists of pieces of refuse skins and hides, cut exceedingly small, which are put into a vat filled with an intensely alkaline solution. After the mass has become pulpy, it is taken out of the vat, placed in a specially constructed machine, and, after undergoing treatment therein, is again taken out and put through a paper-making machine. The resulting paper-like substance is cut into large sheets, which are laid one upon another, in lots of from 100 to 1,000, and put into a hydraulic press to remove all moisture. The article is strong and pliable, and can be pressed or molded into all kinds of shapes and patterns. It is said to make the best kind of wall paper. Decorators who have used this article speak of it in the highest terms.

Leipzig Exhibit of Wearing Apparel.—Consul Warner, of Leipzig, under date of July 11, 1901, says:

The exhibition of wearing apparel which will be held here from the 14th to the 30th of September will give an opportunity of reviewing the clothing industry in all phases. The exhibition will be divided into the following departments: (1) Hygienic dress; (2) art dress; (3) general modes; (4) finery; (5) sewing and embroidery machines, etc.; (6) fashion journals, trade papers, fashion plates, and books. The headquarters of the exhibition is at the "Moden Akademie," Theaterplatz 1, Leipzig, where further information can be obtained.

Proposed Exposition at Cork.—Under date of June 29, 1901, Consul Swiney, of Cork, informs the Department that an exposition of the products and industries of Ireland will be held at that city in 1902. The site selected is on the banks of the River Lee. The people of Dublin, Belfast, and other cities of Ireland have promised their support and have already liberally contributed toward the erection of the buildings and the preparation of the grounds. The railroads have also subscribed, and, in addition, will make low rates to visitors. The consul adds that a number of the exhibitors at the Glasgow exposition will bring their exhibits to Cork.

An International Exposition of Agricultural Machinery.—Under date of July 20, 1901, Consul Haynes, of Rouen, writes as follows:

An international exposition of agricultural machinery will open at Lodi, Italy, in September, 1901. It will include farming implements, machines for the making of butter and cheese, the secondary products of milk, automatons, and automobiles. In order to save time, it would be well for persons interested to secure information as to exhibits, etc., from the Italian Chamber of Commerce, Paris, rather than from Lodi. The address is La Chambre de Commerce Italienne, 17 boulevard de la Madeleine, Paris.

Labor Commission in Northern Italy.—Under date of June 22, 1901, Consul Johnson, of Venice, reports that a labor commission consisting of eighteen members, under the presidency of the mayor, has been established in the commune of Legnago, having for its scope: (1) To settle by amicable means disputes between owners or lessees of property and workingmen—also between employers and employees; (2) to procure work for the unemployed, within possible limits; (3) to prevent usury being practiced on the workingman, and to guard him against making illegal contracts; (4) to promote the welfare of the workingman and to foster respect for existing laws.

Gas Engines in Denmark.—The following report from Consul Freeman, of Copenhagen, was received too late to be included in Special Consular Reports Gas and Oil Engines in Foreign Countries. The consul says:

Although the competition of electric power is quite active, there is a considerable use of gas as motive power in the cities of Denmark. Most of the gas engines in use are manufactured in this country, although there is some importation of German and American machines. The prices are from 15 to 20 per cent higher than in the United States. The use of gasoline is forbidden by police regulations. The price of American kerosene is $2.25 per barrel; of Russian, slightly lower. The cost of coal is $5 per ton. The Scandinavian-American and other steamship lines carry freight direct from New York to Copenhagen at $5 per 40 cubic feet, without reference to weight of the merchandise.

Regulations of Match Trade in the Netherlands.—Under date of July 16, 1901, Minister Newel, of The Hague, transmits translation of a ministerial order prohibiting the manufacture and importation of phosphorus matches to an amount exceeding 0.22 pound. The sale of the same is likewise prohibited. Transit is allowed. By phosphorus matches are understood those in which white phosphorus is contained, or wax lucifers. They are packed either in round or in sliding boxes, and may be ignited by rubbing on a rough surface, and on igniting are recognized by a smell as of garlic. The law goes into effect July 1, 1901, as regards the manufacture, and on January 1, 1902, as far as it applies to the importation and sale of those on hand.

Extinguishing Fire in Rouen.—Consul Haynes reports from Rouen, July 22, 1901:

The head of the fire department of Rouen has suggested to the mayor a novel project in the fire-extinguishing service. Inasmuch as this city is traversed everywhere by electric street-car wires, it is suggested there should be provided pumps, driven by dynamos, to take currents by means of a trolley hooked to the street-car wires at the nearest point to the fire. If this is favorably acted upon, as seems likely, Rouen will be equal, if not superior, to any European city in the efficiency of its fire service. Herein is a suggestion for American cities, where street-car wires are much more numerous.

Belgian Demand for Hydrosilicate of Aluminum and Magnesium.—Vice and Acting Consul Van Hee writes from Ghent, July 24, 1901:

I have this day received a request from Jean Gorus-DeBlock, Chaussée de Bruxelles, Termonde, Belgium, for the names and addresses of manufacturers of hydrosilicate of aluminum and magnesium. These chemical products are now being imported into Belgium from Germany, but it is the desire of this firm to import direct from the United States. All correspondence, price lists, etc., pertaining thereto should be sent direct to the above address.

Bids for Rolling Stock for Belgian Roads.—Consul-General Guenther reports from Frankfort, July 9, 1901:

According to the Revue Industrielle, the management of the Belgian Government railroads contemplates a considerable increase of rolling stock in the near future. In addition to 570 cars already advertised for in the official gazette, the furnishing of several hundred passenger cars and 100 locomotives will be awarded under the bid system.

Proposed Paris-Antwerp Electric Road.—Consul-General Hughes sends the following from Coburg, July 11, 1901:

Under the patronage of the King of Belgium, a French-Belgian syndicate is being formed, it is reported, to build an electric express line for passengers and light freight between Paris and Brussels and from the latter place to Antwerp. The trip from Paris to Brussels is expected to be made in one and a half hours and from Brussels to Antwerp in ten minutes.

Provincial Exposition at Malaga.—Consul Ridgely reports from Malaga that an exposition of the products of the province of Malaga will be held in that city from August 17 to September 15. He adds:

The province of Malaga is one of the richest in Andalusia, and is famous for its wines, raisins, olives, figs, sugar cane, flowers, almonds, vegetables, and other products of semitropical Andalusia. There will also be a notable display of iron ore and other minerals.

Fruit and Vegetable Exhibit at Moscow.—Under date of June 27, 1901, Consul Hughes writes from Coburg:

A large exhibit of fruits and vegetables is to be held this fall at the Zoological Gardens at Moscow, according to the Moskowskija

Wjedomosti. Foreign exhibitors will be asked to send seeds, plants, etc. Great stress is also laid on the improved methods of wine production. This is a good chance for our American growers, as well as for garden-tool makers and other manufacturers.

New Russian Duties on United States Goods.—A report from Consul Heenan, of Odessa, gives the new rates imposed by Russia on rosin, bicycles, etc.,* imported from the United States:

The duty on colophony, or white rosin, galipot, and pitch for brewers has been increased 20 per cent and on velocipedes 30 per cent. Colophony, galipot, and pitch enter under paragraph 82 of the Russian customs tariff, and pay 60 kopecks per pood (30.8 cents per 36.112 pounds). Velocipedes enter under point 3 of paragraph 173 of said tariff, and pay 27 rubles ($13.90).

Bids for Bridge in St. Petersburg.—Under date of July 8, 1901, Consul-General Holloway writes from St. Petersburg:

The city of St. Petersburg has decided to invite bids for a bridge over the Neva River, near the Winter Palace, to replace the pontoon bridge so long in use at that point. Its length is 847 feet and width 91 feet; the cost is limited to 3,500,000 rubles ($1,802,500). The specification will be ready September 1, 1901, and the bridge must be completed in one year from that date. There are now two permanent bridges over the Neva—one stone and one iron—about completed.

Cable Service at Chefoo.—Consul Fowler writes from Chefoo, May 31, 1901:

On a number of occasions, the cable between this port and Taku, connecting Pekin, etc., with the world, has been interrupted. This at last became so serious that the companies laid a second cable, which has just been completed. The Germans, I believe, have also had their lines from Shanghai and Tsintau duplicated. There are now three telegraph offices here—the Joint Cables, the German, and the Chinese (land lines).

German Money in Samoa.—Consul-General Osborn reports from Apia, Samoa, July 5, 1901, that on the first day of that month the German Government began the issue of German money as the legal tender of the colony. Heretofore, American money has been used. The rate of exchange for gold, as fixed by Government proclamation, is 20.42 marks for £1 sterling, and 20.95 marks for $5. The silver mark, shilling, and quarter dollar are given the same relative value. The consul-general adds that considerable trouble is being experienced in handling the German and English money together, as some of the merchants refuse to take the mark at the same value as the shilling.*

---

*See ADVANCE SHEETS No. 1066 (June 19, 1901).

New Australian Steamship Lines.—Consul-General Bray sends from Melbourne, June, 1901, clipping from a newspaper in regard to the formation of two new steamship lines from Europe to Australia, as follows:

> Two important announcements are made in advices concerning the Australian shipping trade. The first is:
>
> "It is announced that steps are being taken at Antwerp for the formation of a Belgian-French-Australian line of steamers. The French Chamber of Commerce in Australia has frequently directed the attention of French shipowners to the extensive maritime traffic carried on between Australia and the north of France."
>
> The second states:
>
> "It is reported that the Italian Government is contemplating the speedy creation of two new steamship lines from Italian ports—one to China and one to Australia—in which only first-class boats shall be employed."

Demand for Beds in Tamatave.—Acting Consul Hunt reports from Tamatave, June 18, 1901:

I am requested by Mr. Christian Bang, of Tamatave, to invite correspondence with him in regard to camp or travelers' beds. He suggests such beds as are made in Racine, Wis. There is always a demand here for light beds of this kind—the lighter the better—by travelers going to the capital and other points on the island. Mr. Bang is one of the most prominent and oldest merchants here, as well as a regular importer of United States goods.

Paraguay Export Company.—Consul Ruffin reports from Asuncion, May 18, 1901, that the importers and exporters of that city have formed a company to control the exports of Paraguay. The company will make advances to producers, receive products in consignment for export on commission, and transact such business as may in the opinion of the board further the interest of the company. In view of the generally prosperous conditions and the fact that no failures have taken place for the last few years, business men in the country seem disposed to invest capital; and there is every hope, says the consul, that Paraguay will take advantage of her improving credit in foreign markets and extend her commercial relations.

---

*According to the United States Treasury valuation, the mark is worth 23.8 cents and the shilling 24.33 cents.

Arrest of Passengers Leaving Brazil.—Minister Bryan, of Petropolis, under date of June 25, 1901, transmits translation of the regulations recently adopted in regard to arrest of passengers leaving Brazilian ports on outgoing foreign steamers. The order reads in part:

> When there shall be a necessity of preventing the departure of any passenger, the chief of police shall notify in writing the consular agent of the country to which the steamship belongs, and as long as possible beforehand.
>
> In case of urgency, or in default of a consular agent, the chief of police shall notify the master of the steamer. The notification shall contain the name and marks of identification of the individual who is to be taken off the steamer.

Trade of Chile in 1900.—Mr. Lenderink, secretary of legation at Santiago, sends under date of June 5, 1901, translation of the message of the Vice-President of the Chilean Republic at the opening session of Congress, from which the following statistics are taken:

The foreign trade of the Republic in 1900 amounted to $108,117,664 (viz, imports, $46,916,422; exports, $61,201,242), showing an excess of $9,798,894 over 1899.

Venezuelan Duty on Tobacco.—Consul Goldschmidt, of La Guayra, June 30, 1901, sends translation of a decree transmitted by Consular Agent De Sola, of Caracas, according to which, from the 1st of July, cut tobacco for cigarettes and manufactured cigarettes imported through the custom-houses of Venezuela shall pay, besides the scheduled duty, 2 bolivars per kilogram (38.6 cents per 2.2046 pounds) on the gross weight. The consular agent notes that cigarettes now pay a total duty of 9 bolivars ($1.73) per kilogram, and cut tobacco for cigarettes 5.25 bolivars ($1.01) per kilogram.

Tariff in Haiti.—The Department has received from Minister Powell, of Port au Prince, under date of August 1, 1901, an extract from the law enacted by the Chambers, granting special powers to the President of Haiti to increase the tariff on foreign goods, when circumstances shall require, to a maximum tariff which shall not exceed threefold that in force. Other duties classed under importation, notably tonnage dues, of the same origin, may be increased in the same proportion.

Preparation of Haitian Coffee.—Under date of July 29, 1901, Minister Powell, of Port au Prince, sends translation of a circular issued by the President of Haiti to the commandants of different districts, inviting attention to the bad condition in which Haitian coffee comes to market, and attributing its depreciation in price largely to this fact. Coffee being the principal article of exportation, the circular urges that cultivators give special care to the preparation of this bean, in order to compete successfully with other coffees in foreign markets.

Business Directory of Monterey.—Consul-General Hanna writes from Monterey, July 31, 1901:

It will no doubt be of interest to the many merchants and manufacturers in the United States who are seeking to extend their trade throughout Mexico, and write the consuls for lists of firms selling certain kinds of goods, to know that there has just been published a classified directory of the city of Monterey, in which are given the names of all commercial houses and the kinds of business in which they are engaged. The directory can be obtained by sending a New York draft for $5 (United States money) to the Sonora News Company, Monterey, Mexico, or to the publishers, Ross-McDonell Advertising Company, Laredo, Tex.

Closing of Bank in Nicaragua.—Consul Sorsby reports from San Juan del Norte, June 22, 1901, that the Supreme Court of Nicaragua has declared that the London Bank of Central America, Limited, has no legal status in the country. The bank went into liquidation on June 15. This leaves Nicaragua for the present without any banking institution.

Debt of Nicaragua.—Consul Sorsby reports from San Juan del Norte, July 31, 1901, that it is announced that the Government has completed all arrangements for paying the interest coupon of the foreign debt, amounting to £7,125 ($34,074). This interest coupon is not due until January 1, 1902, but it seems that the Government is disposed to anticipate its payment.

Consular Reports Transmitted to Other Departments.—The following reports from consular officers (originals or copies) have been transmitted since the date of the last report to other Departments for publication or for other action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
R. P. Skinner, Marseilles	July 22, 1901	Macaroni	Department of Agriculture.
Do	July 19, 1901	Rainfall	Do.
W. H. H. Graham, Winnipeg	July 27, 1901	Crops	Do.
M. H. Twitchell, Kingston	July 31, 1901	do	Do.
G. H. Jackson, La Rochelle	July 23, 1901	Grasshoppers	Do.
Do	July 26, 1901	Strike of longshoremen	Department of Labor.
O. J. D. Hughes, Coburg	do	Rice	Department of Agriculture.
Do	do	Crops	Do.
Do	do	Outdoor teaching	Bureau of Education.
Do	Aug. 21, 1901	Hamburg public library	Do.
B. H. Ridgely, Malaga	July 26, 1901	Grape crop of Almeria	Department of Agriculture.
E. Schneegans, Saigon	June 20, 1901	Rice	Do.
Do	July 4, 1901	do	Do.
T. E. Heenan, Odessa	July 16, 1901	Crops of Russia	Do.
R. Guenther, Frankfort	Aug. 5, 1901	German meat inspection	Do.
Do	July 15, 1901	Weavers' strike	Department of Labor.
Do	July 16, 1901	Nessin's antipest serum	Marine Hospital.
Do	do	Seasickness	Do.
Do	Aug. 10, 1901	"Lecithine"	Do.
F. D. Hill, Amsterdam	Aug. 9, 1901	British crops	Department of Agriculture.
Do	Aug. 15, 1901	Mint at Utrecht	Treasury Department.
Do	do	Census of Amsterdam	Census Bureau.
Do	do	Emigration from Dutch ports.	Bureau of Immigration.
S. C. McFarland, Nottingham.	Aug. 30, 1901	Potatoes in Great Britain	Department of Agriculture.
F. W. Mahin, Reichenberg	Aug. 8, 1901	Strike insurance	Department of Labor.
G. W. Roosevelt, Brussels	Aug. 6, 1901	Glass cutters' strike	Do.
W. W. Canada, Veracruz	Aug. 12, 1901	Mortality statistics	Marine Hospital.
T. Haynes, Rouen	Aug. 27, 1901	Calomel fumigation in Angina.	Do.
H. W. Diederich, Bremen	Aug. 15, 1901	Emigration in July	Bureau of Immigration.

FOREIGN REPORTS AND PUBLICATIONS.

Railway of Yunnan.—The Revue du Commerce Extérieur, Paris, July 6, 1901, says:

The construction of the railway in Yunnan has been authorized. The terms of the agreement between the governor-general of Indo China and the contractor are as follows: The contractor is to construct, at his own expense, risk, and peril, the line of the railway from Lao-Kay to Yunnan-Sen, a distance of about 291 miles.

The railway from Haïphong to Lao-Kay—239 miles—is delivered to the contractor by the governor-general. The whole line from Haïphong to Yunnan-Sen is conceded for a period of seventy-five years, to be worked at the expense and risk of the contractor, with division of profits between him and Indo China. The building capital of the railway and working capital of the entire line amount to $19,493,000.

In its issue of July 10, 1901, La Quinzaine Coloniale adds:

The utility of the line from Lao-Kay to Yunnan-Sen has been demonstrated; it is destined to be the means of an industrial and commercial conquest in Yunnan. The statistics of the transit trade of Tonkin show that Yunnan has a capacity for consumption greatly superior to what has been generally believed, and her agricultural products and live stock can provide the elements of an important traffic. Besides, her immense mineral riches, exploited by modern methods, will add to the value of the line. This opens a new market for steel and iron, rolling stock, tools, lime, cement, and explosives.

Mineral Resources of Yunnan.—The following extracts are taken from the Bulletin de Géographie Commerciale, Paris, 1901:

It has been known for a long time that the Chinese Empire contained numerous deposits of coal, but only very recently has Yunnan been counted among the districts provided with coal resources. The district comprised approximately between the Red River of the south, the meridian of Haïphong on the east, and the Blue River is destined to become one of the most interesting mineral countries of the globe. It has an almost uniform geological conformation, and most of the beds have been worked by the Chinese. The chief mineral wealth, besides coal, consists of copper and tin. Extensive deposits of mercury have also been found. The mines of Hong-Hai contain coal beds of very remarkable thickness and regularity, and the product is relatively pure, as far as ashes are concerned, but unfortunately this fuel is very brittle, "uninflammable," and crackles under fire; it gives an excessive proportion of fine coal, which can only be changed into briquettes by mixing it with Japanese coal. However, it is estimated that a quantity of coal, of a quality equivalent to that of Europe, can be delivered at Haïphong at $3.83 per ton, which, used with the "uninflammable" coal of the coast, would suffice for all the developments of even a metallurgic industry.

The copper mines of Yunnan have been worked for more than a thousand years. In the mining regions, the forests have completely disappeared, wood charcoal being the only fuel employed for the needs of ancient metallurgy. The production in the twelfth century reached 6,000 tons of copper; the output is now limited to about 1,500 tons, on account of the scarcity of fuel. The ore from the accessible parts of the beds is exhausted by the Chinese miners. The deep veins remain, and can only be worked by modern methods. These are so exceptional, on account of their extent and their analogy with the beds of America, that this country may become one of the most important centers of the manufacture of copper.

The tin mines of the region of Mong-Tzé are actively worked by a mining population of about 30,000 people. These beds are of a peculiar character, with accumulations of red clay filled with grains of oxide of tin, which the Chinese, with their cheap manual labor, easily separate by washing. The tin manufactured by wood charcoal is much less pure than that of Malaysia. The total production is some 1,500 tons. About 1,000 tons are sent to Hongkong to be refined. All the beds have been known for a long time, and remain legally at the disposition of the mining population. A new legal organization is necessary in order to render the mines of China accessible to modern industry without infringing on the rights of the people. The present management of the mines is based on the system of privileges and of monopoly, which is the foundation of all mandarin administration. It is easy to criticize it, but we must recognize that it is the only one compatible with the absolute insufficiency of means of communication. It will disappear naturally when the combined efforts of the Imperial Government and of European capitalists have transformed the surface of the Empire. Modern industrial enterprises, combined with mandarin despotism, would reduce the population to a species of slavery. It is the fear of this which is the chief origin of the hostility of the people to foreigners. No race possesses more than the Chinese an appreciation of commercial interests. China is not really hostile to modern discoveries; she only objects to the way in which they are presented.

Mineral Resources of German East Africa.—The Board of Trade Journal, London, contains the following details as to the mineral resources of German East Africa:

Gold has been discovered in many parts of German East Africa. A reef 60 miles long and 10 miles broad is said to exist in Usinja (Muanza district), and there has been some talk of a syndicate being formed to prospect in the neighborhood. Gold has also been found near the shores of Victoria Nyanza, near Lake Kiva, in several streams in the Lindi and Kilwa districts, and in the Livingstone hills. A prospector, accompanied by two miners and about 500 artisans and porters, left for Iramba in September last. A good quality of coal exists at the northwest end of the Lake Nyassa, about 10 miles from the Songwe River, which forms a part of the boundary between German East and British Central Africa. A geologist, who was dispatched by the German Government to visit this region, gives as his opinion that 5,000 tons could be obtained annually for seven years without the aid of shafts.

Garnets have been found in the North and South Pare hills and in the Lindi district. They were first discovered at the latter place by English missionaries in the early seventies. A German, who was granted a concession in 1898, has collected and shipped to Europe about 16 tons of these stones. It is reported that they have brought good prices, and are of better quality than those of Bohemia.

In the bed of the Sigi River, which flows into Tanga Bay, are several sulphur springs, the waters of which have the same qualities as those of Aix la Chapelle. A bath house was built at Amboni in 1899. Iron ore exists in the Livingstone hills and in various districts. Lead is reported from Mahenge, and copper and salt are obtained at Ujiji. The tax imposed on the mining of precious stones and metals, from January 1, 1901, to December 31, 1903, has been lessened by one-half, the annual rates being as follows: Mining of precious stones and minerals up to 100 hectares (247 acres), $3.25 per hectare (2.4 acres); mining of nonprecious metals up to 500 hectares (1,235 acres), 16 cents per hectare.

Railways of British West Africa.—The Bulletin de Géographie Commerciale, Paris, 1901, says:

The three important railways of British West Africa are rapidly nearing completion—the line from Lagos to the Niger, in Benin; that of Sierra Leone to the Niger; and, especially, the line of Coumassi, where the works are being actively pushed, on account of the rich mining country which it traverses. The mining societies recently formed employ numbers of porters, and the railway will enable them to dispense with these, and, at the same time, will facilitate the location of Europeans in the interior, which is much more healthful and inhabitable than the coast.

Railways in Dutch India.—La Quinzaine Coloniale, Paris, says:

According to statistics published December 31, 1899, the railway development in Java and Sumatra at that time was as follows:

Description.	Length.	Capital.	Rate of interest.
	Miles.		*Per cent.*
State railways in Java	[illegible]21	$50,652,000	5.16
State railways in Sumatra	13[illegible]	8,040,000	5.53
Dutch India Company's railways	1[illegible]	10,050,000	8.95
Railway of Deli (private company)	[illegible]5	2,814,000	11.41
Total	1,[illegible]	71,556,000	

At the same date, the street railways represented a total length of 726 miles, with a capital of $15,678,000. The street railways in Dutch India are all built with private capital, except those of Atchin.

Sapphire Production in Australasia.—Nachrichten für Handel und Industrie, Berlin, June 5, 1901, says:

The sapphires which are found in New South Wales and the other Australian States are generally of a somewhat dark color. However, they are also found of different tints, completely colorless and transparent, as well as in blue and green, in all shades up to the deepest opaque blue. In a collection of perhaps a hundred stones, one or two green-colored sapphires or oriental emeralds may be found, but more frequently blue-colored ones. The sapphire is almost always found with alluvial gold, and in the districts of New Zealand and many other places in the Australian continent, in company with tin, diamond spar, red garnet, zircon, topaz, chrysoberyl, chrysolite, and other minerals.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

Vol. LXVII. NOVEMBER, 1901. No. 254.

TARIFF REVISION IN GERMANY.*

Under dates of July 27 and August 2, 1901, the Department has received from Ambassador White, of Berlin, copy of the draft for the proposed new German tariff; also translations of clippings from the Norddeutsche Allgemeine Zeitung, comparing the various duties as at present in force with those in the proposed tariff. The new tariff includes 164 pages, as against 46 pages in the present tariff, with 17 headings and 946 subheadings. The arrangement is by subjects instead of alphabetical. The duty on wheat, rye, oats, and barley, says Mr. White, is, roughly, double what it is at present. Vegetables and flowers are free. The duty on bulls and cows is 25 marks ($5.95) and on calves 4 marks (95 cents) each, or three times the present duty. An entirely new principle has been adopted regarding the duty on cattle for slaughter; the tax will be calculated from the living weight and will be 12 marks ($2.85) the double hundredweight (dopple zentner=220.46 pounds) for oxen, and 10 marks ($2.38) for swine. The duty on meat and lard is raised to 30 marks ($7.14) the double hundredweight, double the present treaty tariff and half as much again as the present "autonomous" (general) tariff. Upon eggs, the present treaty tariff is trebled and the autonomous tariff is doubled. The duty on woods is raised 50 per cent on an average. The duty on textiles remains the same; on leather, boots, and shoes it is largely increased, as well as on indian corn, sausage, poultry, and flour of all kinds.

---

*See also report by Consul-General Mason, of Berlin, in CONSULAR REPORTS No. 253 (October, 1901), p. 240; ADVANCE SHEETS No. 1120.

In order that it may be possible to make comparisons with the tariff now in force, the especially important items of the proposed tariff, as well as those of the autonomous (general) and treaty tariff rates, are herewith given, per 220.46 pounds, unless where otherwise noted:

German tariff.

Articles.	Proposed tariff rates.		Autonomous (general) tariff rates now in force.		Treaty tariffs now in force.	
	Marks.		*Marks.*		*Marks.*	
Rye	6.00	$1.43	5.00	$1.19	3.50	$0.83
Wheat	6.50	1.55	5.00	1.19	3.50	.83
Barley	4.00	.95	2.25	.54	2.00	.48
Oats	6.00	1.43	4.00	.95	3.60	.86
Barley malt	6.25	1.48	4.00	.95	3.60	.86
Potatoes	Free.	....	Free.	....	Free.	....
Kitchen vegetables (fresh cabbage, onions, cucumbers, salad melons, mushrooms)	Free.	....	Free.	....	Free.	....
Cut flowers and cycas, fan, fresh or dried	.20	.05	Free.	....	Free.	....
Other flowers	Free.	....	Free.	....	Free.	....
Apples, pears, and quinces:						
Unpacked or in bags only	Free.	....	Free.	....	Free.	....
Packed otherwise than in bags	6.00	1.43	Free.	....	Free.	....
Timber and wood for carpenters:						
Round—						
Hard	.20 *1.80	.05 .43	.20	.05	.20	.48 ....
Soft	.20 *1.20	.05 .29	.20 1.20	.05 .29	.20 1.20	.48 .29
Hewn—						
Hard	.50 *4.00	.12 .95	.40 2.40	.10 .57	.30 1.80	.07 .43
Soft	.50 *3.00	.12 .71	.40 2.40	.10 .57	.30 1.80	.07 .43
Sawn and planed—						
Hard	1.25 *10.00	.30 2.38	1.00 6.00	.24 1.43	.80 4.80	.19 1.14
Soft	1.25 *7.50	.30 1.79	1.00 6.00	.24 1.43	.80 4.80	.19 1.14
Oak, for barrels (staves and parts of bottoms), split	.30	.07	.20	.05	.20	.05
"Schlief" wood, increasing the length to 1.2 meters, and thickness to 24 centimeters, the authorities supervising the uses thereof.						
Quebracho wood	2.00	.48	Free.	....	Free.	....
Quebracho wood, ground, rasped, or reduced to small pieces by other methods	2.00	.48	.50	.12	Free.	....
Note.—On steamed, impregnated, or otherwise chemically treated wood there is an additional duty of 2.40 marks (57 cents) per square meter, or 0.30 mark (7 cents) for the double centner of hard wood, and 0.40 mark (9.5 cents) per double centner of soft wood added.						

* Per square meter.

German tariff—Continued.

Articles.	Proposed tariff rates.		Autonomous (general) tariff rates now in force.		Treaty tariffs now in force.	
	Marks.		*Marks.*		*Marks.*	
Horses, per head:						
Value up to $71.40	30.00	$7.14	20.00	$4.76	[*]20.00	$4.76
More than $71.40 up to $238	75 00	17.85	20.00	4.76	20.00	4.76
More than $238 up to $595	150.00	35.70	20.00	4.76	20.00	4.76
More than $595	300.00	71.40	20.00	4.76	20.00	4.76
Cattle:						
Steers and cows ... per head	25.00	5.95	9.00	2.14	9.00	2.14
Heifers ... do	15.00	3.57	6.00	1.43	5.00	1.19
Calves ... do	4.00	.95	3.00	.71	3.00	.71
Oxen ... per 220.46 pounds[†]	12.00	2.85	[‡]30.00	7.14	[‡]25.50	6.07
Hogs ... per 220.46 pounds	10.00	2.38	[‡]6.00	1.43	[‡]5.00	1.19
Meat:						
Fresh or frozen (including bacon, abandoning the advantages heretofore granted persons living at the boundary), per 220.46 pounds)	30.00	7.14	....	....	....	....
Salted and smoked—						
Prepared ordinarily	35.00	8.33	20.00	4.76	[§]17.00	4.04
Prepared as finer qualities	75.00	17.85	60.00	14.28	[§]60.00	14.28
Lard	12.50	2.98	10.00	2.38	....	....
Butter[‖]	30.00	7.14	20.00	4.76	16.00	3.81
Cheese	30.00	7.14	20.00	4.76	[¶]15.00 [**]20.00	3.57 4.76
Eggs	6.00	1.43	3.00	.71	2.00	.48
Fat oils (in barrels):						
Rape-seed	12.00	2.86	9.00	2.14	....	....
Linseed	6.00	1.43	4.00	.95	....	....
Wood oil	4.00	.95	9.00	2.14	....	....
Olein	4.00	.95	4.00	.95	3.00	.71
Bran	1.00	.24	Free.	....	Free.	....
Oil-cake	1.00	.24	Free.	....	Free.	....
Margarin	30.00	7.14	20.00	4.76	16.00	3.81
Margarin cheese	30.00	7.14	20.00	4.76	20.00	4.76
Artificial table fat	12.50	2.98	10.00	2.38	10.00	2.38
Cement	.50	.12	Free.	....	Free.	....
Stones for pavement	Free.	....	Free.	....	Free.	....
Sulphuric acid	Free.	....	Free.	....	Free.	....
Acetic acid:						
In incasings of at least 5 kilograms	12.00	2.86	8.00	1.90	....	....
Less than 5 kilograms	48.00	11.42	48.00	11.42	....	....
Soda:						
Raw and crystallized	.90	.21	1.50	.36	1.50	.36
Calcined, and from which the water is drawn by other methods, or purified	1.50	.36	2.50	.60	2.50	.60
Chloride of lime	2.00	.48	3.00	.71	....	....
Wood lime (Holzkalk)	Free.	....	Free.	....	Free.	....
Extracts from dye and tanning woods	8.00	1.90	Free.	....	Free.	....
Bone dust, phosphate dust, and superphosphate	Free.	....	Free.	....	Free.	....

[*] Up to 2 years of age, 10 marks ($2.38).

[†] Live weight; bulls may be introduced for breeding purposes during the first six years this tariff is in force, in accordance with special regulations to be enacted by the Bundesrath, at 9 marks ($2.14) per head.

[‡] Per head.

[§] Bacon, pork, etc.

[‖] Waiving the advantage heretofore granted to persons living at the boundary.

[¶] Hard cheese in pieces (googonzola, parmesan, etc.).

[**] All other cheese.

German tariff—Continued.

Articles.	Proposed tariff rates.		Autonomous (general) tariff rates now in force.		Treaty tariffs now in force.	
	Marks.		*Marks.*		*Marks.*	
Artificial sweets (saccharine)	8,000.00	$1,904.00	Free.	....	Free.	....
Patent medicine	500.00	119.00	(*)	....	(*)	....
Genappes, mohair and alpaca twine (not mixed with cotton):						
Raw—						
One thread	2.00	.48	3.00	$0.71	....	....
Two threads	2.00	.48	3.00	.71	....	....
Three or more threads	20.00	4.76	24.00	5.71	....	....
Bleached, colored, or printed—						
One thread	2.00	.48	3.00	.71	....	....
Two threads	6.00	1.43	24.00	5.71	....	....
Three or more threads	20.00	4.76	24.00	5.71	....	....
Hard worsted yarn, made of glossy wool, more than 20 centimeters long:						
Raw—						
One thread	4.00	.95	3.00	.71	....	....
Two threads	4.50	1.07	3.00	.71	....	....
Three or more threads	24.00	5.71	24.00	5.71	....	....
Bleached, colored, or printed—						
One thread	6.00	1.43	3.00	.71	....	....
Two threads	18.00	4.28	24.00	5.71	....	....
Three or more threads	24.00	5.71	24.00	5.71	....	....
Hard worsted yarn, with certificate granting permission for the manufacture of lasting, weaving, carpets, and laces:						
Raw—						
One thread	3.00	.71	(†)	....	(†)	.. ....
Two threads	3.50	.83				
Three or more threads	20.00	4.76				
Bleached, colored, or printed—						
One thread	4.50	1.07				
Two threads	14.00	3.33				
Three or more threads	20.00	4.76				
Other worsted yarn (*i. e.*, soft worsted yarn not made of glossy wool over 20 centimeters long):						
Raw—						
One thread	8.00	1.90	8.00	1.90	8.00	$1.90
Two threads	10.00	2.38	10.00	2.38	10.00	2.38
Three or more threads	24.00	5.71	24.00	5.71	....	....
Bleached, colored, or printed—						
One thread	12.00	2.85	12.00	2.85	12.00	2.85
Two threads	18.00	4.28	24.00	5.71	24.00	5.71
Three or more threads	24.00	5.71	28.00	6.66	....	....
Carded yarns:						
Raw—						
One thread	10.00	2.38	8.00	1.90	8.00	1.90
Two threads	10.00	2.38	10.00	2.38	....	....
Three or more threads	24.00	5.71	24.00	5.71	....	....
Bleached, colored, or printed—						
One thread	14.00	3.33	12.00	2.85	12.00	2.85
Two threads	21.00	4.99	24.00	5.71	24.00	5.71
Three or more threads	17.00	4.04	24.00	5.71	....	....

* According to the substance used; mainly free, however.

† Up to the present time there was no similar advantage granted.

German tariff—Continued.

Articles.	Proposed tariff rates.		Autonomous (general) tariff rates now in force.		Treaty tariffs now in force.	
Woolen and half-woolen goods not mentioned elsewhere (broadcloth, buckskin, flannel, cashmere, Orleans, and Fanella:						
At a weight of more than 700 grs. to the square meter	*Marks.* 135.00	$32.13	*Marks.* 135.00	$32.13	*Marks.*	
At a weight of more than 200 grs. to 700 grs. to the square meter	175.00	41.65	150.00	35.70		
At a weight of 200 grs. and less to the square meter	220.00	52.36	220.00	52.36		
Cotton yarn, also half-woolen yarn, one thread:						
Raw—						
Up to No. 17 English	9.00	2.14	12.00	2.85		
From Nos. 17 to 30	15.00	3.57	18.00	4.28		
From Nos. 30 to 45	18.00	4.28	18.00	4.28		
Over Nos. 45 to 60	24.00	5.71	24.00	5.71		
Over Nos. 60 to 79	30.00	7.14	30.00	7.14	24.00	$5.71
Over No. 79	36.00	8.57	36.00	8.57	24.00	5.71
Bleached, colored, or printed	(*)		20.00 to 48.00	4.76 to 11.42		
Cotton goods not mentioned elsewhere (calico, cambric, "kottun," percale, shirtings:						
Muslin—						
Raw, at a weight of 80 grs. and more to the square meter, according to the number of threads	50.00 80.00 110.00	11.90 19.04 26.18	Up to the present, a difference has been made between closely or loosely woven, or between finished and colored goods. The duty amounted to from 80 to 200 marks ($19.04 to $47.60).			
At a weight of more than 40 to 80 grs. to the square meter, according to the number of threads	100.00 130.00 160.00	23.80 30.94 38.08				
At a weight of less than 40 grs. to the square meter, according to the number of threads	130.00 160.00 180.00	30.94 38.08 42.84				
Finished and bleached	(†)					
Colored, dyed, woven with 2 colors	(‡)					
Colored with more than 2 colors	(§)					
Linen yarn:						
1 thread, raw, to No. 8 English	6.00	1.43	5.00	1.19	5.00	1.19
Over Nos. 8 to 14 English	7.00	1.66	6.00	1.43	6.00	1.43
Over Nos. 14 to 20	7.50	1.78	6.00	1.43	6.00	1.43
Over Nos. 20 to 35	10.00	2.38	9.00	2.14	9.00	2.14
Over Nos. 35 to 75	13.00	3.09	12.00	2.85	12.00	2.85
Linen, raw (according to number of threads)	14.00 28.00 40.00 65.00	3.33 6.66 9.52 15.47	12.00 24.00 36.00 60.00	2.85 5.71 8.57 14.28	12.00 24.00 36.00 60.00	2.85 5.71 8.57 14.28

* Duty of the raw twirl of one thread, plus 10 marks ($2.38).

† Duty on the raw weaving, plus 20 marks ($4.76).

‡ Duty on the raw weaving, plus 50 marks ($11.90).

§ Duty on the raw weaving, plus 70 marks ($16.16).

German tariff—Continued.

Articles.	Proposed tariff rates.		Autonomous (general) tariff rates now in force.		Treaty tariffs now in force.	
	Marks.		*Marks.*		*Marks.*	
Linen, bleached, colored, or printed, woven in colors (according to the number of threads)	65.00	$15.47	60.00	$14.28	60.00	$14.28
	120.00	28.56	120.00	28.56	120.00	28.56
Leather (partly or wholly finished or prepared, at a net weight of the piece of more than 3 kilograms entire skin, also in halves)	30.00	7.14	*36.00	8.57	30.00	7.14
At a net weight of the piece, from 1 to 3 kilograms	40.00	9.52	†18.00	4.28	....	....
At a net weight of the piece of less than 1 kilogram	50.00	11.90	....	....	....	....
Grain leather	36.00	8.57	....	....	....	....
Goat leather (prepared)	80.00	19.04	‡18.00	4.28	....	....
Sheep leather (prepared)	36.00	8.57	§36.00	8.57	....	....
Ram leather	50.00	11.90	36.00	8.57	....	....
Leather gloves	200.00	47.60	100.00	23.80	100.00	23.80
Raw, carpenters', turners', and wagon makers' work:						
Window frames, stairs, doors, and parts thereof, profiled wooden strips	10.00	2.38	3.00	.71	3.00	.71
Others	8.00	1.90				
Paper, and materials used for the manufacture of paper:						
Wood pulp (Holzschiff)	1.25	.30	1.00	.24	1.00	.24
Cellulose	1.25	.30	....	....	....	....
Yellow straw paper	1.50	.36	‖1.00	.24	1.00	.24
			¶6.00	1.43	3.00	.71
Ordinary packing paper	4.00	.95	‖4.00	.95	3.00	.71
			¶6.00	1.43	3.00	.71
All other paper (printing, writing, blotting and tissue; paper for cartoons)	10.00	2.38	10.00	2.38	**6.00	1.43
Glass:						
White mirror and table glass, neither ground nor polished	4.00	.95	9.00	2.14	3.00	.71
When the height and width together amount to 120 centimeters and less	8.00	1.90	8.00	1.90	6.00	1.43
More than 120 to 200 centimeters	10.00	2.38	††8.00	1.90	††8.00	1.90
More than 200 centimeters	12.00	2.85	††10.00	2.38	††10.00	2.38
Raw iron	1.00	.24	1.00	.24	....	....
Rod iron:						
Weighing 1 kilogram or more to the meter	2.50	.60	2.50	.60	2.50	.60
Less than 1 kilogram to the meter	3.00	.71				
In pieces not over 12 centimeters long for remelting	1.00	.30	2.50	.60	1.50	.36
Tin according to its thickness of more than 1.5 millimeters to 1 millimeter and less:						
Raw, also "dekapist" ("Stangblech")	3.00	.71	‖3.00	.71	3.00	.71
	4.50	1.07	‡‡5.00	1.19	5.00	1.19
	5.08	1.19				

* Sole leather.

† Other leather

‡ Not dyed.

§ Dyed.

‖ Raw.

¶ Smooth.

** Printing, writing, blotting, tissue, and other paper.

†† Gross.

‡‡ "Entzundert."

German tariff—Continued.

Articles.	Proposed tariff rates.		Autonomous (general) tariff rates now in force.		Treaty tariffs now in force.	
Tin, etc.—Continued.	*Marks.*		*Marks.*		*Marks.*	
Ground, polished, oxidized	5.00 5.50 6.00	$1.19 1.31 1.43	5.00	$1.19	5.00	$1.19
"Weiss" tin	5.00 5.50 6.00	1.19 1.31 1.43	5.00	1.19	5.00	1.19
Increase for "Ronden" of 15 per cent			(*)		(*)	
Wire, rolled or drawn, according to the thickness of 1.5 millimeters or more, less than 1.5 millimeters to 0.5 millimeter, and less than 0.5 millimeter:						
Raw	3.00 3.50 5.00	.71 .83 1.19				
Polished	3.50 4.50 6.00	.83 1.07 1.43	3.00	.71		
Railway track	2.50	.60	2.50	.60	2.50	.60
Steel castings of four divisions, according to the net weight of the piece, of more than 25 kilograms to less than 0.5 kilogram:						
Raw	4.50 to 12.00	1.07 to 2.85	(†)		(†)	
Worked	7.00 to 24.00	1.66 to 5.71				
Saws:						
Circular and belt	20.00	4.76	5.00	1.19		
Hand and other	15.00	3.57	15.00	3.57	15.00	3.57
Files:						
Not more than 16 centimeters long	40.00	9.52	15.00	3.57	15.00	8.57
Over 16 to 35 centimeters long	25.00	5.95				
More than 35 centimeters long	10.00	2.38				
Needles:						
Sewing needles with gilt eyes	60.00	14.28	60.00	14.28		
Sewing-machine needles	200.00	47.60	60.00	14.28		
Raw copper	Free.		Free.		Free.	
Copper finishing and printing rollers	30.00	7.14	8.00	1.90		
Metal cloth	40.00	9.52	18.00	4.28		
Steam engines, turbines, motors, pumps, etc., in 10 divisions (Staffeln), according to net weight of more than 1,000 double hundredweights down to 40 kilograms and lower	3.50 to 100.00	.84 to 23.80	From 2.50 to 8 marks (60 cents to $1.90), according to material.			
Tool machinery, in 5 divisions, according to the net weight from 100 double hundredweights to 2.5 double hundredweights and less	4.00 to 20.00	.95 to 4.76				
Machines not especially mentioned, in 8 divisions, according to their net weight from 100 double hundredweights and more down to 40 kilograms and less	3.50 to 18.00	.83 to 4.28				
Dynamos, electromotors, classified according to their net weight, from 30 double hundredweights and more down to 5 double hundredweights and less	6.00 to 9.00	1.43	(†)		(†)	

* Same duty. † Different rates.

German tariff—Continued.

Articles.	Proposed tariff rates.		Autonomous (general) tariff rates now in force.		Treaty tariffs now in force.	
	Marks.		*Marks.*		*Marks.*	
Electrical apparatus	60.00	$14.28	(*)	....	(*)	....
Bicycles	150.00	35.70	Different rates, although mostly 24 marks ($5.71).			
Bicycle parts:						
Unfinished	40.00	9.52				
Finished	150.00	35.70				
Children's toys and parts of toys (Christmas-tree trimmings)	10.00	2.38	(*)	....	(*)	....
Maize	4.00	.95	2.00	$0.48	1.60	$0.38
Rape seed	3.00	.71	2.00	.48	2.00	.48
Linseed	.75	.18	Free.	....	Free.	....
Cotton seed, palm kernels, and copra	Free.	....	Free.	....	....	....
Cotton, flax, hemp, ramie, jute, raw or cleaned, roasted, broken, without lime	Free.	....	Free.	....	Free.	....
Tobacco leaves	85.00	20.23	85.00	20.23	....	....
Hops (gross)	40.00	9.52	20.00	4.76	14.00	3.33
"Cycas" stems, or roots, and palms	Free.	....	Free.	....	Free.	....
Laurel trees	3.00	.71	Free.	....	Free.	....
Other living plants, in pots or tubs	6.00	1.43	Free	....	Free.	....
Orchid bulbs, without roots	Free.	....	Free.	....	Free.	....
Other flower bulbs	10.00	2.38	Free.	....	Free.	....
Dried apples and pears, also dried cut and peeled	8.00	1.90	4.00	.95	4.00	.95
Coffee, raw	40.00	9.52	40.00	9.52	....	....
Cocoa, raw	35.00	8.33	35.00	8.33	....	....
Live poultry .... per head	....	....	Free.	....	....	....
Geese .... per goose	.70	.16	....	....	Free.	....
Chickens .... per dozen	6.00	1.43	Free.	....	Free.	....
Killed poultry .... do	30.00	7.14	30.00	7.14	12.00	2.85
Sausage made from meat, cattle, poultry, or game	45.00	10.71	20.00	4.76	17.00	4.04
Fresh fish (also frozen):						
Carp	15.00	3.57	Free.	....	....	....
Other	Free.	....	Free.	....	....	....
Tallow	2.50	.60	2.00	.48	2.00	.48
Sheep wool, raw and washed	Free.	....	Free.	....	Free.	....
Skins and hides, without hair, and split, for the manufacture of leather	Free	....	....	....	....	....
Sheepskins	....	....	3.00	.71	....	....
Goatskins	....	....	3.00	.71	1.00	.24
Other hides and skins	....	....	Free.	....	Free.	....
Flour: †						
Oat	16.00	3.80	10.50	2.50	7.30	1.74
Other	13.50	3.21	10.50	2.50	7.30	1.74
Peeled oats, grits (grltze)	16.00	3.80	10.50	2.50	7.30	1.74
Fat oils in barrels:						
Olive oil—						
Pure	10.00	2.38	10.00	2.38	3.00	.71
Denaturalized	2.00	.48	2.00	.48	Free.	....
Cotton-seed oil—						
Pure	12.50	2.98	10.00	2.38	....	....
Denaturalized	5.00	1.19	4.00	.95	....	....
Starch, green or dried	16.00	3.80	12.50	2.98	....	....

* Different rates.

† Waiving the advantages of persons living on the boundaries.

German tariff—Continued.

Articles.	Proposed tariff rates.		Autonomous (general) tariff rates now in force.		Treaty tariffs now in force.	
Wine in barrels or tank wagons:						
Containing alcohol of not more than 14 per cent weight	*Marks.* 24.00	$5.71	*Marks.* 24.00	$5.71	*Marks.* 20.00	$4.76
Of more than 14 per cent to 20 per cent	30.00	7.14	(*)	....	(*)	....
Of more than 20 per cent	160.00	38.08				
Wine in bottles:						
Sparkling wines	120.00	28.56	120.00	28.56	....	....
Still wines	48.00	11.42	48.00	11.42	....	....
Beer	6.00	1.43	6.00	1.43	....	....
Vinegar:†						
In barrels or tubs	10.00	2.38	8.00	1.90	....	....
In bottles	48.00	11.42	48.00	11.42	....	....
Ordinary bakers' goods‡	12.00	2.85	10.50	2.50	7.30	1.74
Vermicelli	20.00	4.76	13.50	3.21	....	.17
Raw slate blocks, raw slate plates,§ and raw table slate	.25	.06	Free.	....	Free.	....
Roof slate	1.25	.30	1.50 or .50	.36 or .12	.50	.12
Stearic acid and paraffin, raw or purified, with the exception of soft paraffin	15.00	3.57	10.00	2.38	....	....
Paraffin for the manufacture of paper	10.00	2.38	10.00	2.38	....	....
Soft paraffin	10.00	2.38	10.00	2.38	....	....
Salt‖	.80	.19	....	....	....	....
Oil varnishes	9.00	2.14	6.00	1.43	....	....
Spirit varnish	30.00	7.14	20.00	4.76	....	....
Varnishes manufactured without using alcohol	25.00	5.95	20.00	4.76	....	....
Wood acid:						
Raw	Free.	....	Free.	....	Free.	....
Purified	15.00	3.57	Free.	....	Free.	....
Raw lime	3.00	.71	3.00	.71	....	....
Lime	5.00	1.19	3.00	.71	....	....
Glove leather	36.00	8.57	36.00	8.57	30.00	7.14
Shoes:						
With leather soles, each pair weighing more than 1,100 grs	85.00	20.23	¶50.00	11.90	50.00	11.90
Weighing 1,100 grs. and less	120.00	28.56	**70.00	16.66	65.00	15.47
Caoutchouc threads not bespun	40.00	9.52	3.00	.71	....	....
Rubber shoes:						
Without polish	70.00	16.66	40.00	9.52	....	....
With polish	100.00	23.80	60.00	14.28	....	....
Paper for collars bespun with cotton weaving	20.00	4.76	150.00	35.70	....	....
Albums and boxes:						
Covered with leather	50.00	11.90	(††)	....	(††)	....
Other	24.00	5.71				

* Of more than 18 per cent weight the same as liquor.

† Vinegar with more than 15 per cent of acid of vinegar will have to pay the same duty as acid of vinegar.

‡ Waiving the advantage heretofore granted those living near the boundary.

§ Waiving the advantage heretofore granted for the sea importation; slate plates of more than 20 centimeters are regarded as blocks.

‖ Waiving the duty import aside of the advantage of the sea interior taxation of 12 marks ($2.85).

¶ Ordinary.

** Fine.

†† Different rating; from 24 to 200 marks ($5.71 to $47.60).

German tariff—Continued.

Articles.	Proposed tariff rates.		Autonomous (general) tariff rates now in force.		Treaty tariffs now in force.	
	Marks.		*Marks.*		*Marks.*	
Polishing and grinding stones ("Sehmirgel, Korund, Karborund").	30.00	$7.14	0.25	$0.06	....	....
Brick:						
Unglazed	.15	.04	Free.	....	....	....
Ordinary, for rear walls	.05	.01	Free.	....	....	....
For front walls	.10	.02	Free.	....	....	....
Table glass, less than 0.5 millimeter thick	100.00	23.80	(*)	....	(*)	....
Ground eyeglasses, not colored	80.00	19.04	24.00	5.71	12.00	$2.86
Cut nails (tacks, etc.):						
20 millimeters long	12.00	2.86	†10.00	2.38	10.00	2.38
Less than 20 millimeters long	20.00	4.76	‡6.00	1.43	6.00	1.43
Pens, also with gilt points	96.00	22.85	60.00	14.28	....	....
Bimetal (50 per cent added to duty on iron):						
Raw aluminum	Free.	....	Free.	....	....	....
Raw lead, zinc, tin, and nickel	Free.	....	Free.	....	....	....
Tender, locomotive:						
With a net weight of the machine of 10 tons or less	11.00	2.62	8.00	1.90	8.00	1.90
Of more than 10 tons	9.00	2.14				
Locomotives without tender	9.00	2.14				
Locomobiles:						
With a net weight of the machine of 6 tons or less	9.00	2.14	8.00	1.90	8.00	1.90
Of more than 6 tons	8.00	1.90				
Railway carriages without machines	....	....	(§)	....	(§)	....
Freight wagons, open or covered	5.00	1.19				
Passenger wagons, third and fourth class	....	....				
Official wagons	7.50	1.78				
Passenger wagons, first and second class; street cars	12.00	2.86				

* Same as stronger table glass.

† Ground.

‡ Not ground.

§ With leather or upholstery work, 10 per cent ad valorem; without leather or upholstery work, 6 per cent ad valorem.

German tariff.

Specification of goods.	Duty rates of the tariff-bill draft.		Duty rates of the autonomous tariff now in force.		Treaty rates now in force.	
	Marks.		*Marks.*		*Marks.*	
Umbrellas and parasols:						
Made of lace or embroidery or cloth, with needlework or trimmed therewith	200.00	$47.60	120.00	$28.56	120.00	$28.56
Silk	120.00	28.56				
Partly silk	90.00	21.42				
Cotton	70.00	16.66				
Fans:						
Made out of ostrich feathers	600.00	142.80	200.00	47.60	200.00	47.60
Made out of silk, lace, embroidery, and other feathers than ostrich feathers	300.00	71.40	200.00	47.60	200.00	47.60
All other	200.00	47.60	200.00	47.60	200.00	47.60
Men's hats:						
Made out of hair felt—						
Not trimmed per piece	.70	.17	*1.80	.43	*1.80	.43
Trimmed do	1.00	.24				
Made out of wool felt—						
Not trimmed do	.30	.07				
Trimmed do	.40	.10				
Ladies' hats, made of felt, of all descriptions:						
Not trimmed per piece	.35	.08	.20	.05	.20	.05
Trimmed do	1.00	.24	1.00	.24	.80	.19
Hats not formed ("Hutstempen"):						
Made of hair felt do	.45	.09	*1.80	.43	*1.80	.43
Wool felt do	.20	.05				
Straw hats:						
Not trimmed do	.30	.07	.20	.05	.15	.04
Trimmed do	.50	.12	.40	.10	....	....
Trimmed ladies' hats of all descriptions do	1.50	.36	1.00	.24	.80	.19
Note regarding textile goods.—"Cremirte," "mercerisirte, or nitrirte" goods are treated the same as bleached goods. "Brochirte" wearings pay an additional duty of 10 per cent. Goods with needle work pay the same amount as sewed goods. Goods with plain seams or sewing pay an additional duty, as do also bags, of 15 per cent in addition to the duty on the goods.						
Belting of bark-tanned leather	60.00	14.28	50.00	11.90	45.00	10.71
Saddlery and fine leather goods:						
At a net weight of 2 kilograms to the piece or more	65.00	15.47	50.00 to 600.00	11.90 to 142.80	†50.00	11.90
Of less than 2 kilograms	80.00	19.04			†120.00	28.56
In connection with precious-metal mountings	120.00	28.56			....	....
Glove leather, already cut for gloves	150.00	35.70	100.00	23.80	100.00	23.80
White-colored or colored Angora or sheep skins for manufacturing furs	Free.	....	6.00	1.43	6.00	1.43
Caoutchouc:						
Dissolved	6.00	1.43	3.00	.71	....	....
Soft dough, rolled plates	8.00	1.90	3.00	.71	....	....
Art plates made out of soft caoutchouc (patent plates)	12.00	2.85	3.00	.71	....	....
Inner tubing for pneumatic tires	100.00	23.80	40.00	9.52	....	....
Outer tubing for pneumatic tires	80.00	23.80	90.00	21.42	....	....
Printing cloth and artificial scraping leather for factories under Government control	50.00	11.90	Free.	....	....	....

* Per dozen. † Partly.

German tariff—Continued.

Specification of goods.	Duty rates of the tariff-bill draft.		Duty rates of the autonomous tariff now in force.		Treaty rates now in force.	
	Marks.		*Marks.*		*Marks.*	
Caoutchouc threads:						
Covered with silk or part-silk weaving	75.00	$17.85	40.00	$9.52		
Covered with cotton weaving	60.00	14.28	40.00	9.52		
Hard caoutchouc:						
Dough	8.00	1.90	Free.			
For dental purposes	100.00	23.80	Free.			
In plates; raw pressings made of hard caoutchouc	15.00	3.57	Free.			
Pipes made of hard caoutchouc	45.00	10.71	Free.			
Other hard caoutchouc wares	45.00	10.71	40.00 to 120.00	9.52	28.56	$6.80
Wooden-plated:						
Undyed	2.00	.47	3.00	.71	1.00	.24
Dyed	2.00	.47	30.00	7.14	10.00	2.38
Straw ribbons:						
Unbleached, undyed	Free.	1.90	18.00	4.28	10.00	2.38
Bleached, dyed	8.00					
Toothbrushes of bone	100.00	23.80	24.00	5.71	24.00	5.71
Veneer:						
Raw	10.00	2.38	16.00	3.81	5.00	1.19
Polished and colored	30.00	7.14	10.00	2.38	10.00	2.38
Parts of hard-wood floor, inlaid	18.00	4.28	30.00	7.14	30.00	7.14
Spools of wood:						
Raw	6.00	1.43	3.00	.71	3.00	.71
Colored	10.00	2.38	10.00	2.38	5.00	1.19
Furniture, not upholstered:						
Not veneered, made from soft wood—						
Raw	8.00	1.90	3.00	.71	3.00	.71
Polished, colored	12.00	2.85	10.00	2.38	10.00	2.38
Made from hard wood—						
Raw	12.00	2.85	10.00	2.38	10.00	2.38
Polished, etc	15.00	3.57	10.00	2.38	10.00	2.38
Veneered—						
Raw	15.00	3.57	10.00	2.38	10.00	2.38
Polished, etc	20.00	4.76	10.00	2.38	10.00	2.38
Upholstered—						
Without cover	30.00	7.14	30.00	7.14		
With cover of silk, velvet, plush, or leather	60.00	14.28	40.00	9.52		
Of other material	40.00	9.52	40.00	9.52		
Cork paper	300.00	71.40	10.00	2.38		
Celluloid plates:						
Raw	4.00	.95	3.00	.71		
Polished, excepting the imitation of ivory	100.00	23.80	200.00	47.60	200.00	47.60
Straw pasteboard	1.50	.36	1.00	.24	1.00	.24
Albumen and other photographic paper:						
Sensitive paper, with silver	20.00	4.76	10.00	2.38		
Other	12.00	2.85	10.00	2.38		
Paper decorations:						
In plain cases	22.00	5.23	(*)		(*)	
In cases covered with leather or silk	35.00	8.33				
Stone blocks, sawed	.20	.05	(†)		(†)	

* Different rating up to 120 marks ($28.56).

† Toward the sea, free; toward the interior, 1 mark (24 cents).

German tariff—Continued.

Specification of goods.	Duty rates of the tariff-bill draft.		Duty rates of the autonomous tariff now in force.		Treaty rates now in force.	
Stone plates:						
Sawed—	*Marks.*		*Marks.*		*Marks.*	
Alabaster or marble	3.50	$0.83	(*)	....	(†)	....
Hard stone	3.00	.71				
Soft stone	2.50	.60				
Polished or chiseled—						
Alabaster or marble	15.00	3.57				
Hard stone	15.00	3.57				
Soft stone	6.00	1.43				
Slate blocks or plates	3.00	.71				
Masonry work, not polished or chiseled:						
Plain work—						
Alabaster or marble	2.50	.60				
Hard stone	0.75	.18				
Soft stone	.75	.18				
Profiled, turned, ornamented—						
Alabaster or marble	3.50	.83	(*)	....	(‡)	....
Hard stone	3.50	.83				
Soft stone	2.50	.60				
Masonry work, polished and chiseled:						
Alabaster or marble	15.00	3.57				
Hard stone	15.00	3.57				
Soft stone	6.00	1.43				
Protecting material made from infusorial earth	.80	.19	Free.	....	....	....
Building plates and stones made from plaster of paris:						
Without ornamentation	1.00	.24	3.00 and 6.00	$0.71 and 1.43	....	....
With ornamentation	2.00	.48			....	....
Clinker ("klinker")—						
Glazed	.50	.12	1.00	.24	1.00	$0.24
Unglazed	.50	.12	Free.	....	....	....
Roof bricks of clay:						
Unglazed—						
Roof bricks	.15	.04	Free.	....	....	....
Pan tiles	.50	.12	Free.	....	....	....
"Falzdach" bricks	.50	.12	1.00	.24	1.00	.24
Glazed of all kinds	1.00	.24	1.00	.24	....	....
"Falzdach" bricks	....	....	....	....	1.00	.24
Other roof bricks	....	....	....	....	.75	.18
Stones and parts thereof, glazed and ornamented:						
Of one color or white	2.00	.48	1.00 to 16.00	.24 to 3.81	1.00 to 16.00	.24 to 3.81
Of more colors; also having a "luster" or metal covering	3.00	.71				
Fireproof stones, unglazed or glazed:						
Right angled, heavier than 5 kilograms	.35	.08	§.50	.12	.50	.12
Right angled, not weighing 5 kilograms	.60	.14	‖1.00	.24	.75	.18
Figured	.60	.14				
Floor plates of clay, also glazed:						
Of one color	2.00	.48	1.00 to 16.00	.24 to 3.81	1.00 to 16.00	.24 to 3.81
Of more colors than one; also "luster" or metal covering	4.00	.95				
Plates for covering walls made of clay; also glazed:						
Of one color	10.00	2.38				
Of more than one color; also covered with "luster" or metal	16.00	3.81				

* Different rating up to 15 marks ($3.57).
† Different rating; free and up to 10 marks ($2.38).
‡ Different rating; free and up to 10 marks (23.8 cents up to $2.38).
§ Unglazed.
‖ Glazed.

German tariff—Continued.

Specification of goods.	Duty rates of the tariff-bill draft.		Duty rates of the autonomous tariff now in force.		Treaty rates now in force.	
	Marks.		*Marks.*		*Marks.*	
"Opalenzent" glass ... per gross	40.00	$9.52	24.00	$5.71	24.00	$5.71
Glass negatives ... do	24.00	5.71	Free.	......	Free.	......
Unprepared optician glass	8.00	1.90	3.00	.71	3.00	.71
White glass for watches, polished and pressed	80.00	19.04	24.00	5.71	12.00	2.85
White eyeglasses, not polished	15.00	3.57	24.00	5.71	12.00	2.85
Glass painting, daguerreotype	42.09	9.99	Free.	......	Free.	......
Rough cast-iron pipes and parts of forms of pipes:						
Of more than 7 millimeters thickness of casting	3.00	.71	2.50	.60	2.50	.60
Of 7 millimeters thickness of casting and less	6.00	1.43				
Cast iron, not "schmiedbar:"						
Rough, with a net weight of the piece of 1 double hundredweight	2.50	.60	2.50 to 24.00	.60 to 5.71	2.50 to 24.00	.60 to 5.71
Of more than 50 kilograms up to 1 double hundredweight	3.50	.83				
More than 5 kilograms up to 40 kilograms	5.00	1.19				
5 kilograms and less	7.00	1.66				
Ground, turned, etc., with a net weight of the piece of more than 1 double hundredweight	4.00	.95				
More than 40 kilograms up to 1 double hundredweight	6.00	1.43	2.50 to 24.00	.60 to 5.71	2.50 to 24.00	.60 to 5.71
More than 5 kilograms up to 40 kilograms	9.00	2.14				
5 kilograms and less	12.00	2.85				
Sheet iron:						
Raw "Entzundert," having a thickness of—						
More than 1 millimeter	3.00	.71	3.00 5.00	.71 1.19	3.00 5.00	.71 1.19
More than 0.5 to 1 millimeter	4.50	1.07				
0.5 millimeter and less	5.00	1.19				
Polished, varnished, and oxidized, having a thickness of—						
More than 1 millimeter	5.00	1.19	5.00	1.19	5.00	1.19
More than 0.5 up to 1 millimeter	5.50	1.31				
0.5 millimeter and less	6.00	1.43				
Tinned (tin plate), coppered, at a thickness of—						
More than 1 millimeter	5.00	1.19	5.00	1.19	5.00	1.19
More than 0.5 up to 1 millimeter	5.50	1.31				
0.5 millimeter and less	......	......				
Iron wire, wrought and drawn:						
Raw, having a thickness of—						
1.5 millimeters and more	3.00	.71	3.00	.71	......	......
Less than 1.5 millimeters to 0.5 millimeter	3.50	.83				
Less than 0.5 millimeter	5.00	1.19				
Polished, coppered, having a thickness of—						
1.5 millimeters and more	3.50	.83				
Less than 1.5 millimeters to 0.5 millimeter	4.50	1.07				
Less than 0.5 millimeter	6.00	1.43				
The advantage to introduce wrought wire for "Kratz" fabrication is revoked.						

German tariff—Continued.

Specification of goods.	Duty rates of the tariff-bill draft.		Duty rates of the autonomous tariff now in force.		Treaty rates now in force.	
Wrought or drawn iron pipes:						
Raw, the sides having a thickness of—	*Marks.*		*Marks.*		*Marks.*	
2 millimeters or more	6.00	$1.43	5.00 to 24.00	$1.19 to 5.71	10.00 24.00	$2.38 5.71
Less than 2 millimeters	10.00	2.38				
Ground and polished, the sides having a thickness of—						
2 millimeters or more	12.00	2.85				
Less than 2 millimeters	20.00	4.76				
Rolling railway material	3.00	.71	3.00	.71	2.50	.60
Steam boilers:						
Tube boilers—						
Of 5 tons or less	8.00	1.90	5.00 to 8.00	1.19 to 1.90	5.00 to 8.00	1.19 to 1.90
Of 5 tons or more	6.00	1.43				
Others	5.00	1.14				
Spades and shovels	6.00	1.43	5.00 to 8.00	1.19 to 1.90	5.00 to 8.00	1.19 to 1.90
Hay, dung, and similarly large forks	10.00	2.38				
Scythes and sickles	15.00	3.57				
Borers, tongs, chisels, plane irons, machine knives	20.00	4.76				
Scraping ironwork ("Kratzenbeschläge")	60.00	14.28	....	....	....	....
Screws and rivets:						
The pivot having a thickness of—						
More than 13 millimeters	5.00	1.19	3.00 to 24.00	.71 to 5.71	3.00 to 24.00	.71 to 5.71
13 millimeters or less	15.00	3.57				
Wire pivots:						
Raw	6.00	1.43				
Ground, polished	15.00	3.57				
The free entry of chains for navigation with towboats is abolished.						
To nickeled iron goods an additional duty of 50 per cent is added.						
Aluminum wire:						
Round, of a thickness of—						
More than 0.5 millimeter	12.00	2.85	12.00	2.85	....	....
Of 0.5 millimeter or less	50.00	11.90				
Smoothed or "faconirt"	50.00	11.90				
Plates of zinc:						
Raw—						
Of more than 0.25 millimeter thickness	3.00	.71	3.00	.71	....	....
Of 0.25 millimeter thickness or less	4.50	1.07				
Ground, polished, varnished, etc	5.00	1.19				
Molding casts and forged pieces of nickel	12.00	2.85	60.00	14.28	60.00	14.28
Nickel wire:						
1 millimeter thickness and more	12.00	2.85	12.00	2.85	....	....
Less than 1 millimeter thickness	15.00	3.57				
Tubes, pipes, cups, made of nickel	30.00	7.14	60.00	14.28	60.00	14.28
House and kitchen wares, made of copper:						
Not varnished, not polished	34.00	8.09	18.00 to 30.00	4.28 to 7.14	18.00 to 30.00	4.28 to 7.14
Varnished, polished	26.00	6.19				
Iron wire, copper, etc., bespun or covered:						
Whenever the cover consists of—						
Silk	36.00	8.57	(*)	....	(*)	....
Cotton	18.00	4.28				
Caoutchouc or paper	15.00	3.57				

* Different rating up to 120 marks ($28.56).

German tariff—Continued.

Specification of goods.	Duty rates of the tariff-bill draft.		Duty rates of the autonomous tariff now in force.		Treaty rates now in force.	
	Marks.		*Marks.*		*Marks.*	
Sewing and knitting machines with frames	20.00	$4.76	(*)	....	(*)	....
Scraping machines	20.00	4.76				
Thread, spinning, and "vor" spinning machines	6.00	1.43				
Weaving-chairs	5.00	1.19				
Curtain, lace, and net-lace machines, weaving and embroidering machines	10.00	2.38				
Steam thrashing and steam mowing machines	9.00	2.14				
Accumulators:						
In connection with celluloid or hard caoutchouc	24.00	5.71	(†)	....	(†)	....
Without the connection of celluloid or hard caoutchouc	6.00	1.43				
Electric cables	8.00	1.90	12.00	$2.85	8.00	$1.90
Arc lights	40.00	9.52	(†)	....	(†)	....
Search lights	20.00	4.76				
Electric incandescent lights	120.00	28.56	30.00	7.14	24.00	5.71
Automobiles and motor vehicles	‡20.00 to 150.00	4.76 to 35.70	§8.00	1.90	§8.00	1.90
Passenger vehicles:						
2 or 4 wheels, with 4 seats at the most—						
Without top cover...each	100.00	23.80	(‖)	....	(‖)	....
With top cover...do	150.00	35.70				
4 wheels, with more than 4 seats—						
Without top cover...do	180.00	42.84				
With top cover...do	200.00	47.60				
Freight vehicles:						
On springs, with closed freight case—						
Plain or with oil coating...do	50.00	11.90				
Varnished or upholstered...do	75.00	17.85				
On springs, with open place for freight—						
Plain or with oil coating...each	40.00	9.52				
Varnished or upholstered...do	50.00	11.90				
Without springs...do	25.00	5.95				
River boats, for private use:						
With steam engine	10.00	2.38	Free.	....	Free.	....
Without steam engine	15.00	3.57				
Swimming docks	5.00	1.19	(†)	....	(†)	....
Hand weapons	90.00	21.42	60.00	14.28	60.00	14.28
Gun springs, cocks, and barrels:						
Raw	6.00	1.19	(¶)	....	(†)	....
Ground, polished	24.00	5.71				
Gun locks:						
Roughly worked	40.00	9.52	60.00	14.28	24.00	5.71
Others	90.00	21.42				
Drivers and balances of steel for watches	60.00	14.28	60.00 to 600.00	14.28 to 142.80	175.00	41.65
Other parts of watches	200.00	47.60				
Church organs	25.00	5.95	30.00	7.14	20.00	4.76
Harmoniums and pianos	40.00	9.52	30.00	7.14	....	....
Mechanical parts of pianos, and the keys of pianos	55.00	13.09	30.00	7.14	....	....

[*] Different ratings; mostly 5 marks ($1.19).

[†] Different rating.

[‡] In 6 classes, according to weight.

[§] Automobiles and motor vehicles different rates; mostly 24 marks ($5.71).

[‖] Different ratings, from 3 marks (71 cents) for the double hundredweight to 150 marks ($35.70) each.

[¶] Different rating up to 60 marks ($14.28).

German tariff—Continued.

Specification of goods.	Duty rates of the tariff-bill draft.		Duty rates of the autonomous tariff now in force.		Treaty rates now in force.	
Mechanical musical instruments:						
	Marks.		*Marks.*		*Marks.*	
Without cover, of a weight of 500 grs. and less	25.00	$5.95	30.00	$7.14	20.00	$4.76
With cover	40.00	9.52	30.00	7.14	20.00	4.76
Ice in whole pieces and broken	4.00	.95	4.00	.95	4.00	.95
Polished rice	6.00	1.43	4.00	.95	4.00	.95
Beans, pease, lentils	4.00	.95	2.00	.48	1.50	.36
Beans for feeding animals, lupines, vetches	2.50	.60	2.00	.48	1.50	.36
Clay seed	5.00	1.19	Free.		Free.	
Grass seed	2.00	.48	Free.		Free.	
"Runkel" and sugar-beet seed	1.00	.24	Free.		Free.	
Sugar beets and beets for feeding purposes.						
Fresh	Free.		Free.		Free.	
Dried	1.00	.24	1.00	.24		
Chicory roots:						
Fresh	Free.		Free.		Free.	
Dried	2.00	.48	1.00	.24	.80	.19
Mushrooms, in salt water	20.00	4.76	4.00	.95	4.00	.95
Dried vegetables	10.00	2.38				
Grapes:						
Fresh	15.00	3.57	15.00	3.57	(*)	
Musted	24.00	5.71	(†)		(†)	
Fresh apricots and peaches	8.00	1.90	Free.		Free.	
Dried plums:						
In wagon loads, or in barrels or bags of a gross weight of at least 80 kilograms	5.00	1.19	4.00	.95	4.00	.95
In different packing (cases, boxes, etc.)	10.00	2.38	4.00	.95	4.00	.95
Fresh oranges, lemons, granates, dates, and almonds	12.00	2.85	12.00	2.85	4.00	.95
Dried figs, currants, and raisins	24.00	5.71	24.00	5.71	8.00	1.90
Pure chicory, roasted; also ground	10.00	2.38	4.00	.95		
Other coffee surrogates	(‡)		(‡)			
Tea	100.00	23.80	100.00	23.80		
Cayenne pepper	10.00	2.34	50.00	11.90	4.00	.95
Cedar wood (lead-pencil wood):						
In blocks	.10	.02	1.10	.26		
Sawed (unplaned)	.25	.06	.25	.06		
Boxwood, ebony, mahogany, "polisander," teak, and pockwood	(§)		(‖)			
Railway ties; also sawed on one long side:						
Of hard wood—						
Per double hundredweight	.40	.10	.40	.10	.30	.07
Per square meter	3.20	.76	¶.40	.10	¶1.80	.43
Of soft wood—						
Per double hundredweight	.40	.10				
Per square meter	2.40	.57				
Impregnated ties	(**)		(††)			
Charcoal; also pulverized	Free.		Free.		Free.	
Charcoal "briketts"	Free.		Free		Free.	
Dyewood in blocks or ground; also fermented	Free.		Free.		Free.	

* Grapes in postal packages, free; other grapes for table use, 4 marks (95 cents); pressed grapes, 10 marks ($2.38).

† The same as the wine.

‡ The same as coffee.

§ The same as domestic hard wood.

‖ Different rating; lower in the main, however, than domestic wood.

¶ No long side can be sawed.

** An additional duty of 2.40 marks (57 cents) per square meter, or 0.3 mark (7 cents) per double hundredweight on hard wood and 0.4 mark (10 cents) per double hundredweight on soft wood.

†† As nonimpregnated ties.

German tariff—Continued.

Specification of goods.	Duty rates of the tariff-bill draft.		Duty rates of the autonomous tariff now in force.		Treaty rates now in force.	
	Marks.		*Marks.*		*Marks.*	
Tanning bark; also ground	.50	$0.12	.50	$0.12	Free.	....
Piruciana coriaria, myrobalan, "valonea," and other tanning material not especially mentioned; catechu	Free.	....	Free.	....	Free.	....
Sheep per head	2.00	.48	1.00	.24	1.00	$0.24
Lambs do	1.00	.24	.50	.12	.50	.12
Meat and bacon, plainly prepared (pickled and smoked), abolishing the advantages for the persons living at the frontier	35.00	8.33	20.00	4.76	*17.00	4.04
Meat prepared for finer table use (pastry)	75.00	17.85	60.00	14.28	60.00	14.28
Pickled and smoked hogs' hams; furthermore, fresh and pickled or smoked meat without bones (also tongues)	(†)	....	(‡)	....	....	....
Liquid meat extract and table bouillon	30.00	7.14	20.00	4.76	20.00	4.76
Salt herrings, in barrels per barrel	3.00	.71	3.00	.71	....	....
Caviare	150.00	35.70	150.00	35.70	150.00	35.70
Oysters per gross	50.00	11.90	50.00	11.90	....	....
Hog and goose fat, raw (neither boiled nor pressed)	5.00	1.19	2.00	.48	2.00	.48
Bone fat; refuse fat "wolleschweiss" fat, wool-wash fat, tanning fat, and lime fat	2.00	.48	2.00	.48	2.00	.48
Milk and cream (also sterilized or "perponisirt")	Free.	....	Free.	....	Free.	....
Egg yolks:						
In fluid form, dried, salted, or preserved in some other manner	8.00	1.90	(§)	....	(§)	....
Denaturalized for commercial purposes	....	....	(‖)	....	(‖)	....
White of an egg, in fluid form, also salted or otherwise preserved	Free.	....	(¶)	....	(¶)	....
Beehives, baskets, cases with live bees:						
At a weight of not more than 20 kilograms	Free.	....	Free.	....	Free.	....
At more than 20 kilograms	(**)	....	(**)	....	(**)	....
The duty-free "Weideverkchr" of beehives remains.						
Honeycombs or melted, or in beehives without bees; also artificial honey	40.00	9.52	40.00	9.52	....	....
Raw beeswax	10.00	2.38	15.00	3.57	....	....
Bed feathers:						
Cleaned or prepared (cut, etc.)	2.00	.48	6.00	1.43	Free.	....
Raw	....	....	Free.	....	Free.	....
Bone coal ("Knochenkohle")	Free.	....	Free.	....	Free.	....
Sponges:						
Raw or simply beaten	Free.	....	Free.	....	Free.	....
Washed and bleached	20.00	4.76	Free.	....	Free.	....
Cocoa butter	45.00	10.71	45.00	10.71	....	....
Cotton stearin per gross	12.50	2.98	10.00	2.38	10.00	2.38
Cotton stearin for manufacturing soap or candles, under Government control, or denaturalized per gross	5.00	1.19	2.00	.48	....	....
Palm oil, cocoanut oil, and other plant tallow	2.00	.48	2.00	.48	2.00	.48
Edible plant tallow	(††)	....	(††)	....	(††)	....

* Meat.

† An additional duty of 20 per cent to ordinary meat.

‡ The same as ordinary meat.

§ In bottles, etc., salted, 60 marks ($14.28); otherwise, 3 marks (71 cents).

‖ Thus far no such privilege was granted.

¶ In bottles, etc., salted, 60 marks ($14.28), otherwise, free.

** The same as honey; free.

†† The same as margarin.

German tariff—Continued.

Specification of goods.	Duty rates of the tariff-bill draft.		Duty rates of the autonomous tariff now in force.		Treaty rates now in force.	
	Marks.		*Marks.*		*Marks.*	
Dextrin, weavers' glue, gum in fluid form, dried, or in kernels	18.00	$4.28	12.50	$2.98		
Arrowroot, sago	15.00	3.57	12.50	2.98		
Milk sugar	40.00	9.52	Free.		Free.	
Spirits:						
In barrels—						
Liquors	240.00	57.12	240.00	57.12		
Other	160.00	38.08	160.00	38.08		
In bottles	240.00	57.12	240.00	57.12		
Dry or doughlike wine yeast	4.00	.95	Free.		Free.	
Slices of beets, cleaned or pressed:						
Fresh	Free.		Free.		Free.	
Dried	1.00	.24	1.00	.24		
Pomage	5.00	1.19	Free.		Free.	
Pomage for manufacturing cognac under Government control	Free.					
Malt germs ("Keime") pomage, also dried	1.00	.24	Free.		Free.	
Cocoa material and cocoa powder	80.00	19.04	80.00	19.04		
Chocolate	80.00	19.04	80.00	19.04	80.00	$19.04
Preserves in cans, sauces, etc., and other finer material for table use	75.00	17.85	60.00	14.28	60.00	14.28
Smoking, chewing, and snuff tobacco	180.00	42.84	180.00	42.84		
Tobacco ribs and stems	85.00	20.23	85.00	20.23		
Cigars	270.00	64.26	270.00	64.26		
Cigarettes	270.00	64.26	270.00	64.26		
Kaolin	Free.		Free.		Free.	
Unworked colored earths and graphite	Free.		Free.		Free.	
Plaster of paris, burnt, ground, and washed	Free.		Free.		Free.	
Crude petroleum	6.00	1.43	6.00	1.43		
Petroleum for lighting, benzine, petroleum, ether	6.00	1.43	6.00	1.43		
Mineral train oil	10.00	2.38	10.00	2.38		
Resinous oil	10.00	2.38	Free.		Free.	
Wax:						
Bleached bees	15.00	3.57	15.00	3.57		
Tree	15.00	3.57	3.00	.71		
Earth, refined	15.00	3.57	15.00	3.57	10.00	2.38
Ceresin	15.00	3.57	15.00	3.57	10.00	2.38
Candies of all kinds (of wax, ceresin, paraffin, stearin, cetin, or tallow)	23.00	5.47	18.00	4.28		
Resinous soap, Turkish "rothöl"	5.00	1.19	5.00	1.19		
Hard soap (excepting tooth soap)	10.00	2.38	10.00	2.38		
Soap in pieces, prepared for immediate use	30.00	7.14	30.00	7.14		
Glycerin, crude or cleaned	Free.		Free.		Free.	
Phosphor:						
Red	20.00	4.76	Free.		Free.	
Yellow	15.00	3.57	Free.		Free.	
Acid:						
Muriatic	Free.		Free.		Free.	
Tartaric and citric	8.00	1.90	Free.		Free.	
Carbonate of ammonia	5.00	1.19	Free.		Free.	
Carbonate of soda	1.50	.36	2.50	.60		
Caustic soda and caustic potash	3.50	.83	4.00	.95		
Potash	2.00	.48	1.50	.36	1.50	.36
"Schafschweissasche"	2.00	.48	(*)		(*)	
Vitrol of copper	2.00	.48	Free.		Free.	
Oxide of tin	6.00	1.43	Free.		Free.	
Sugar of lead and vinegar of lead	1.00	.24	Free.		Free.	

* Crude, free; cleaned, 1.50 marks (36 cents).

German tariff—Continued.

Specification of goods.	Duty rates of the tariff-bill draft.		Duty rates of the autonomous tariff now in force.		Treaty rates now in force.	
Tartar:	*Marks.*		*Marks.*		*Marks.*	
Crude	Free.	....	Free.	....	Free.	....
Refined	8.00	$1.90	Free.	....	Free.	....
Calcium carbide	4.00	.95	Free.	....	Free.	....
Berlin blue	10.00	2.38	Free.	....	Free.	....
Oxide of zinc, "Lithoperi"	2.00	.48	Free.	....	Free.	....
Red cinnabar	25.00	5.95	Free.	....	Free.	....
Washed and cleaned chalk	.40	.10	.30	$0.07	....	....
Earth colors, dry; also in dough form	.50	.12	Free.	....	Free.	....
Book and copper printers' ink	10.00	2.38	3.00	.71	....	....
Copper printing color made of soot, or copper printing ink	15.00	3.57	3.00	.71	....	....
White lead, zinc white, "Lithoperi" white mixed with oil:						
Prepared for the wholesale trade	3.00	.71	20.00	4.76	....	....
Prepared for the retail trade, or in tin cans	20.00	4.76	20.00	4.76	....	....
Colors prepared differently (with oil, glycerin, lime, etc.)	20.00	4.76	20.00	4.76	....	....
Ink	5.00	1.19	3.00	.71	....	....
Lead, color and crayon pencils:						
Uncovered and only wrapped in paper	20.00	4.76	20.00	4.76	....	....
Covered with rough unpolished white wood	25.00	5.95	20.00	4.76	....	....
Covered with colored or polished wood	45.00	10.71	20.00	4.76	....	....
Ether of all kinds:						
In barrels	160.00	38.08	125.00	29.75	....	....
In bottles	240.00	57.12	180.00	42.84	....	....
Turpentine oil	Free.	....	Free.	....	Free.	....
"Vanilline"	80.00	19.04	50.00	11.90	....	....
"Kumarin, heliotropin"	80.00	19.04	Free.	....	Free.	....
Perfumeries, containing ether or alcohol	300.00	71.40	300.00	71.40	....	....
Powder:						
Smokeless	20.00	4.76	Free.	....	....	....
Other	5.00	1.19	Free.	....	....	....
Dynamite, picric acid in shells or capsules	5.00	1.19	3.00	.71	....	....
Percussion "pillen," percussion cap, "Schlagröhren," cartridges	36.00	8.57	(*)	....	(*)	....
Fireworks of all description	50.00	11.90	3.00	.71	....	....
Perfect gas mantle	120.00	28.56	Free.	....	Free.	....
"Kasein"	10.00	2.38	Free.	....	Free.	....
Condensed gases, inclusive of the steel bottles	6.00	1.43	Free.	....	Free.	....
Chloroform	30.00	7.14	20.00	4.76	Free.	....
Hydrate of chlorine	30.00	7.14	Free.	....	Free.	....
Pure sirup of sweet wood, crude or cleaned	12.00	2.85	Free.	....	Free.	....
Prepared medicines and other pharmacy productions, not mentioned elsewhere	40.00	9.52	(†)	....	(†)	....
Sewing silk:						
Undyed	200.00	47.60	200.00	47.60	140.00	$33.32
Dyed	250.00	59.50	200.00	47.60	140.00	33.32
For weaving, embroidering, or for the manufacture of button-makers' material, fringes, or laces, on a permission being granted and under Government control—						
Undyed	Free.	....	Free.	....	Free.	....
Dyed white	36.00	8.57	Free.	....	Free.	....
Dyed in various colors	36.00	8.57	36.00	8.57	36.00	8.57

* Different rating.

† Different rating, but mostly free.

German tariff—Continued.

Specification of goods.	Duty rates of the tariff-bill draft.		Duty rates of the autonomous tariff now in force.		Treaty rates now in force.	
	Marks.		*Marks.*		*Marks.*	
Artificial silk:						
Without or one thread—						
Undyed	50.00	$11.90	Free.		Free.	
Dyed	100.00	23.80	(*)		(*)	
Two threads—						
Undyed	200.00	47.60	Free.		Free.	
Dyed	200.00	47.60	(*)		(*)	
Silk yarn, prepared for the retail trade:						
Raw or artificial silk	300.00	71.40	(†)		(‡)	
Floret silk	75.00	17.85				
Furniture stuffs (aside from velvet and plush):						
Pure silk—						
Meter goods	900.00	214.20	(§)		(§)	
Cut goods; also with embroidery or trimmings	1,200.00	285.60				
Half silk	500.00	119.00				
Cut goods; also with embroidery or trimmings	650.00	154.70				
Pieces of 4 meters length and less are charged the same duty as cut goods.						
Silk bolting cloth	1,000.00	238.00	1,000.00	$238.00	600.00	142.80
Gauze, crape, and veils	1,200.00	285.60	1,000.00	238.00		
Gauze, crape, and veil for embroidering	1,000.00	238.00	1,000.00	238.00		
Silk lace goods and lace	800.00	190.40	600.00	142.80		
Embroidering:						
On silk cloth, on gauze, crape, and veil	1,300.00	309.40	(§)		(§)	
On closely woven goods (for instance, atlas)	900.00	214.20				
Lace goods:						
Of silk	800.00	190.40	90.00 to 800.00	21.42 to 190.40	120.00 to 600.00	28.56 to 142.80
Of half silk	450.00	107.10				
Woolen yarn gotten up for retail trade	36.00	8.57	(§)		(§)	
Knit woolen carpets	200.00	47.60	100.00	23.80	100.00	23.80
Woolen furniture stuff (excepting plush and velvet):						
Meter goods heavier than 200 grs. to the square meter	175.00	41.65	(§)		(§)	
200 grs. or less to the square meter	250.00	59.50				
Cut pieces, also with embroidery or laces heavier than 200 grs. to the square meter	250.00	59.50	(§)		(§)	
200 grs. or less to the square meter	350.00	83.30				
Figured woolen velvet	200.00	47.60	150.00	35.70	150.00	35.70
Underwear:						
Woven woolen	100.00	23.80	(§)		(§)	
Cut, manufactured	140.33	33.32				
Other cut or manufactured, woven or knit goods of wool	140.00	33.32				
Woolen lace goods, laces, and woolen veils	350.00	83.30	(§)			
Woolen lace and button makers' goods	200.00	47.60	120.00 and 150.00	28.56 and 35.70	120.00 and 150.00	28.56 and 35.70
Embroidery on woolen goods:						
Broad stitch	400.00	95.20	300.00	71.40	300.00	71.40
Chain stitch	450.00	107.10				
All others	400.00	95.20				
Whenever embroidered with silk or metal thread, 20 per cent added.						

* White silk, free; dyed in various colors, 36 marks ($8.57).

† Different ratings, between free and 200 marks ($47.60).

‡ Different ratings, between free and 140 marks ($33.32).

§ Different rating.

German tariff—Continued.

Specification of goods.	Duty rates of the tariff-bill draft.		Duty rates of the autonomous tariff now in force.		Treaty rates now in force.	
	Marks.		*Marks.*		*Marks.*	
Cotton, bleached	4.00	$0.95	Free.	....	....	....
Cotton furniture stuff (excepting velvet and plush):						
Goods by the meter	180.00	42.84	(*)	....	(*)	....
Cut also with embroidery or lace	220.00	52.36				
Pieces of 4-meter length or less pay the same duty as cut goods.						
Cotton velvet and plush:						
By the piece—						
Raw	80.00	19.04	(†)	....	(‡)	....
Bleached, dyed printed, and woven	110.00	26.18				
Velvet by measure (cut)—						
Raw	90.00	21.42				
Bleached, colored, etc	120.00	28.56				
Cut velvet—						
Raw	150.00	35.70				
Bleached, colored, etc	139.00	33.08				
Velvet and plush figured in other manner than by pressing, 20 per cent added.						
Cotton curtain material:						
Goods sold per meter—						
Raw	200.00	47.60	200.00 and 230.00	$47.60 and 54.74		
Finished, bleached, dyed, printed, and woven	240.00	57.12			(§)	....
Trimmed with ribbon	280.00	66.64				
Cut; also trimmed with ribbon	280.00	66.64				
Cotton veiling:						
Raw—						
Without pattern	80.00	19.04	80.00	19.04	....	....
With pattern	180.00	42.84	120.00	28.56	120.00	$28.56
Bleached, dyed, and printed	250.00	59.50	200.00	47.60	200.00	47.60
With pattern, with permission to apply needlework under Government control	120.00	28.56	(‖)	....	(‖)	....
Cotton woven goods	100.00	23.80	120.00	28.56	95.00	22.61
Cotton net ("netz") goods	100.00	23.80	120.00	28.56	120.00	28.56
Cotton woven and net goods:						
Gloves	180.00	42.84	120.00	28.56	(¶)	
Stockings, socks, and underwear (cut), finished in make	140.00	33.32				
Fishing nets	50.00	11.90	3.00	.71	....	....
Cotton lace goods and laces:						
Embroidered	450.00	107.10	(**)	....	(*)	....
Woven	350.00	83.30				
Boned	350.00	83.30				
Embroidery on cotton goods:						
Broad-stitch embroidery	400.00	95.20	350.00	83.30	275.00	65.45
Chain-stitch embroidery	450.00	107.10				
All others	400.00	95.20				
When embroidered with silk or metal threads, 20 per cent is added.						
Cotton embroidery and button makers' goods	160.00	38.08	120.00	28.56	120.00	28.56

* Different rating.
† Different rating, between 80 and 120 marks.
‡ Partly 120 marks ($28.56).
§ Partly 200 marks ($47.60).
‖ A similar privilege was thus far not granted.
¶ Partly 120 marks ($28.56) and 95 marks ($22.61).
** Different rating; mostly 350 marks ($83.30).

German tariff—Continued.

Specification of goods.	Duty rates of the tariff-bill draft.		Duty rates of the autonomous tariff now in force.		Treaty rates now in force.	
Hemp yarn:						
One thread—						
Raw—	*Marks.*		*Marks.*		*Marks.*	
To No. 6 English	8.00	$1.90	*5.00 to 12.00	$1.19 to 2.85	*5.00 to 12.00	$1.19 to 2.85
Over No. 6 to No. 10	9.00	2.14				
Over No. 10	10.00	2.38				
Bleached, dyed, or printed—						
To No. 6 English	13.00	3.09	*12.00 to 20.00	2.85 to 4.76	*12.00 to 20.00	2.85 to 4.76
Over No. 6 to No. 10	14.00	3.33				
Over No. 10	16.00	3.81				
Two threads or more (thread), raw, bleached, dyed, or printed	36.00	8.57	36.00	8.57	36.00	8.57
Ramie yarn:						
One thread—						
Raw—						
To No. 11 English	6.00	1.43	*5.00 to 12.00	1.19 to 2.85	*5.00 to 12.00	1.19 to 2.85
From No. 11 to No. 22	10.00	2.38				
From No. 22 to No. 33	15.00	3.57				
Over No. 33	20.00	4.76				
Bleached, dyed, or printed—						
To No. 11 English	8.00	1.90	*12.00 to 20.00	2.85 to 4.76	*12.00 to 20.00	2.85 to 4.76
From No. 11 to No. 22	14.00	3.33				
From No. 22 to No. 33	20.00	4.76				
Over No. 33	26.00	6.18				
Of two or more threads (thread), raw, bleached, dyed, or printed	36.00	8.57	36.00	8.57	36.00	8.57
Jute yarn of one or more threads:						
Raw—						
To No. 8 English	5.00	1.19	*5.00 to 12.00	1.19 to 2.85	*5.00 to 12.00	1.19 to 2.85
From No. 8 to No. 14	6.00	1.43				
Over No. 14	7.00	1.66				
Bleached, dyed, or printed—						
To No. 14 English	12.00	2.85	*12.00 to 20.00	2.85 to 4.76	*12.00 to 20.00	2.85 to 4.76
Over No. 14	13.00	3.09				
Linen handkerchiefs, in the piece or cut; also figured, and with colored cotton threads at the end:						
Raw—						
At a size of 2 centimeters, having up to 120 threads to the square	80.00	19.04	36.00	8.57	36.00	8.57
More than 120 threads	110.00	26.18	60.00	14.28	60.00	14.28
Bleached, dyed, printed—						
Woven in colors to a size of 2 centimeters and having up to 120 threads to the square	120.00	28.56	60.00	14.28	60.00	14.28
More than 120 threads	140.00	33.32	120.00	28.56	120.00	28.56
Furniture stuff of "jute" (excepting velvet and plush)	80.00	19.04	†60.00 to 150.00	14.28 to 35.70	†60.00 to 150.00	14.28 to 35.70
Linen, velvet, and plush, goods resembling velvet and plush, made of linen; cloth for bath towels:						
Raw, bleached, dyed, printed; woven in colors	80.00	19.04	....	....	....	....
Bleached, dyed, printed; woven in colors	110.00	26.18	†12.00 to 150.00	2.85 to 35.70	†12.00 to 150.00	2.85 to 35.70
Figured by another process than pressing, addition of 20 marks.						
Linen gauze, linen veiling, and similarly loosely woven goods made of linen	300.00	71.40				

* According to other classification. † Different rating.

German tariff—Continued.

Specification of goods.	Duty rates of the tariff-bill draft.		Duty rates of the autonomous tariff now in force.		Treaty rates now in force.	
	Marks.		*Marks.*		*Marks.*	
Linen lace goods and lace of all kinds	600.00	$142.28	(*)	......	(*)	......
Linen embroidery and button makers' goods	150.00	35.70	(*)	......	(*)	......
Embroidery on linen goods:						
Broad stitch	400.00	95.20	150.00	$35.70	150.00	$35.70
Chain stitch	450.00	107.10				
All others	400.00	95.20				
When embroidered with silk or metal threads, additional 20 per cent.						
Material (cloth) for bookbinding, smooth or pressed	60.00	14.28	30.00	7.14	......	......
Linoleum, one roll, or cut in small pieces:						
Of one color—						
Without print	10.00	2.38	12.00	2.85	......	......
With print	12.00	2.85				
Of more colors (for instance, "mosaic" and granite linoleum), also with print	18.00	4.28				
"Linkrusta"	40.00	9.52	70.00	16.66	......	......
Felt goods, made of hair felt:						
Shoes	30.00	7.14	100.00 to 300.00	23.80 to 71.40	100.00 to 350.00	23.80 to 83.30
Covers	15.00	3.57	3.00 to 150.00	.71 to 35.70	3.00 to 150.00	.71 to 35.70
Felt made of wool:						
Piano felt in plates	200.00	47.60	......	......	......	......
Other felt and felt goods	100.00	23.80	100.00 to 150.00	23.80 to 35.70	100.00 to 150.00	23.80 to 35.70
Crisp hair, of horsehair or surrogates of horsehair	5.00	1.19	Free.	......	Free.	......
Cloths, body linen, millinery goods, and other sewed goods of silk:						
Of entire or half silk of loosely woven goods, lace, or embroidery	1,500.00	357.00	1,200.00	285.60	......	......
All silk of closely woven goods	1,200.00	285.60	1,200.00	285.60	......	......
Half-silk closely woven goods	700.00	166.60	675.00	160.65	......	......
Of woolen and half woolen goods†	350.00	83.30	300.00	71.40	300.00	71.40
Of cotton and half-linen goods‡	400.00	95.20	150.00 to 350.00	35.70 to 83.30	300.00	71.40
Of linen goods‡	350.00	83.30	60.00 to 800.00	14.28 to 190.40	300.00	71.40

* Different rating.

† Whenever the goods are made of lace or embroidery, additional duty of 100 per cent.

‡ Whenever the goods are trimmed with lace or embroidery, additional duty of 50 per cent.

Under date of August 9, Mr. White adds:

It must not be forgotten that the measure has not yet been discussed by the Federal Council (Bundesrath), and consequently that it is not at all certain that the provisions of the bill itself or the items of the tariff will remain unchanged in the measure as it is eventually presented to the Reichstag. As the matter stands, this draft of the bill has been submitted to the several governments for consideration, and it is quite possible that material alterations may be made in it before it comes before the Bundesrath, the body which will decide as to the form in which it will be presented to the Reichstag. It is not probable, however, that the character of the bill will be greatly changed. Sentiment in favor of increased protection for German manufactures has been growing steadily, and it has long been known that any new tariff bill must contain higher duties on farm products. That part of the measure which fixes a minimum below which no concession can be made (as in the case of wheat, etc.) is of course the part most severely criticised.

In several states, conferences with interested parties have already been held, and it is now formally announced that the Prussian Minister of Commerce will grant hearings, probably in September, to persons not fully heard by the Zollbeirath, or who think that changed conditions should modify the conclusions reached by that body.

GERMAN MANUFACTURERS AND THE PROPOSED TARIFF.

The Saxon Commercial Treaties Union has issued the following appeal to its members and all others interested in the commercial welfare of the German Empire:

> The new tariff has been published, and the hopes o the German people for a continuance of a liberal policy, whereby commercial treaties might be negotiated with other countries, have been destroyed. Against every expectation that a single tariff would be proposed on the import of grain, a double tariff has been outlined which will cause a marked increase in the cost of living. The resolutions of the different chambers of commerce throughout the country, which are the lawful representatives of commerce and industry, have been totally disregarded. In order to satisfy the interests of a number of large landed proprietors, the German Empire will try a precarious experiment. There are foreign countries, consumers of German manufactured products, which lay great stress upon the value of the German market for their food stuffs and raw materials. The passing of a double tariff on grain will render impossible the chances of securing satisfactory commercial treaties with these countries, and a tariff war will be inevitable.
>
> For many years, the industries of the German Empire have become more and more dependent upon the export of manufactured products. Under the present tariff, the nation has enjoyed unparalleled commercial prosperity. During the past ten years our exports have increased 1,100,000,000 marks ($261,800,000). One-fifth of the entire population is directly dependent for existence upon our export industries. If we permit these to decline, the Empire will no longer be able to maintain her position as a commercial and political world power.
>
> It is nothing short of mockery to console the laboring classes with the doctrine that a higher tariff will increase the purchasing power of the home markets. The increase in the expense of living will by far overbalance any possible gain, and the evil results will be felt in every part of the Empire. That there will be a

proportionate increase in the rate of wages is a fallacy, for the reason that manufacturers will be compelled to reduce not only the wages, but the number of men employed as well. A ruinous crisis will be the logical outcome of such a policy and will lead to the emigration of skilled labor which can no longer find employment in the country. Our capitalists will be obliged to seek fields for investment in countries which present more favorable conditions.

The agricultural interests of the country will receive no lasting benefit. From 1850 to 1875, the highest prices on record were paid for grain of every description. Yet this was the period of the greatest emigration to foreign countries—a time when the small strips of land belonging to the peasant were absorbed by adjoining estates, and a general depopulation of the country villages in favor of the cities occurred. It is the peasant who has an interest in sustaining the purchasing power of the industrial population, inasmuch as he receives thereby higher prices for milk, cheese, eggs, meat, fruit, etc.; high prices for food stuffs, however, would reduce this purchasing power.

The German people have succeeded, through the application of energy, economy, and patience, in securing a prominent place in the markets of the world. Within a short time, the merchant marine has been doubled and a powerful navy has been created to protect our commerce. Time and money have been spent in searching for foreign markets and in adapting our industries to the wants of the trade in other countries. Are all these efforts with their results to be rendered valueless through a policy which will surely cause friction with other nations? Nothing short of a powerful movement among the people can avert the pending danger which hangs over people and Fatherland.

This appeal sounds alarming and gives the impression of being exaggerated. The union, however, has some of the most wealthy and influential manufacturers in Saxony among its members.

Three generations ago, Germany was almost an agrarian State. In 1882, 43 per cent of the population followed agriculture, 46 per cent industry and commerce, while all other pursuits were placed at 11 per cent. In 1895, only 36 per cent of the inhabitants were engaged in agriculture, while the number employed in the various branches of industry and commerce had risen to 52 per cent, all other vocations being placed at 12 per cent. In December, 1900, the population of the Empire was 56,345,000. Of this number, only one-third may be said to have been dependent upon agriculture for a livelihood, while fully 55 per cent relied upon industry and commerce for an existence. Germany, like England, although not to the same extent, has sacrificed her agricultural interests in order to become a great exporting nation, and the importation of Russian and American grain has exerted a powerful influence in bringing about this change.

In 1878, Germany had 64,575,925 acres of land under cultivation. This included lands growing grain, gardens, and the vineyards of the Rhine country. Apart from this, there were 25,349,929 acres of pasture land and meadows and 34,198,069 acres devoted to forestry, or a total of 124,123,923 acres, without taking into consideration spaces occupied by buildings and yards or the sandy wastes of some

Prussian provinces. In 1893, fifteen years later, the area of tilled lands had increased only 1,598,654 acres. During this same period, the meadow and pasture lands were compelled to give way to the plow, while large areas of waste land were reclaimed by the process of irrigation and by the planting of trees.

In spite of the depopulation of the country villages and the influx of foreign cereals, German agriculture has made some progress. With unceasing labor, the peasant coaxes a livelihood from the sterile soil. Where the nature of the ground permits, modern machinery has been introduced to some extent. Self-binders, mowers, thrashing machines, hayrakes, etc., after the latest American improvements, may be seen in use all over the Empire.

The following table will give an idea of the average yearly grain output of the German Empire during the past twenty-two years:

Year.	Rye.	Wheat.	Barley.	Oats.
	Metric tons.	*Metric tons.*	*Metric tons.*	*Metric tons.*
1878	6,919,667	2,607,186	2,325,227	5,040,245
1880	4,952,525	2,345,278	2,145,617	4,228,128
1885	5,820,095	2,599,271	2,260,645	4,342,357
1890	5,868,078	2,830,921	2,283,432	4,913,544
1895	7,724,902	3,171,844	2,793,974	6,244,473
1900	8,551,659	3,841,165	3,002,182	7,091,930

A tariff, unless passed for the purpose of creating revenue, has for its object to protect and foster native products that can be marketed at home on an equality with those imported from other countries. The creation of a double grain tariff will not reduce the importations from Russia and America. Germany produces only 75 per cent of the grain necessary for her own use. All the tillable land in the country is under cultivation, and in ten years the output will be no more than it is to-day, if as much. It is the general impression that the tariff as outlined will not become law; but if it should, the effect upon wages and the expected good results to German agricultural interests will be watched with some curiosity.

ERNEST L. HARRIS,
Consular Agent.

EIBENSTOCK, *September 10, 1901.*

UNITED STATES VS. GERMAN PATENT-OFFICE PRACTICE.

It is a matter of common knowledge among inventors and others who are interested in patent-law practice that, while the United States and Germany are by common consent the two countries in which inventions are most intelligently and thoroughly examined, and in which, therefore, a patent once obtained is most valuable, there are certain radical differences in the methods of the patent offices at Washington and Berlin which, being often misunderstood, lead to disappointments, recriminations, and litigation which more exact knowledge might have averted.

It is not uncommon to hear American and other foreign inventors complain of a hostile and forbidding attitude on the part of the examiners at the German patent office, as though the duty of the latter were to assume that every invention presented for a patent is defective or plagiarized until the contrary is proven—in other words, to discourage rather than encourage the protection of meritorious inventions by patent. It requires but slight experience in such matters to show that in many, if not a majority, of the cases the troubles of American inventors at the German patent office are due to their failure to realize the difference in the two systems of application, by reason of which an application which would be correct at Washington would inevitably fail at Berlin for informalities which any clerk in a patent lawyer's office should recognize and be able to correct. It is beyond the scope of a consular report to enter exhaustively into this subject, but a few of the more obvious differences may be cited as illustrative examples.

In the first place, a foreign inventor may not deal directly with the imperial German patent office. He must be represented here by a patent attorney of recognized standing, by whom the application and specifications are presented, and through whom additional details or explanations may be asked for by the examiners. This does not mean, however, that the foreign inventor need necessarily send his application through a long international chain of offices, which may not infrequently involve needless delay and expenses. There is kept at the German patent office a list of recognized patent attorneys who are located in Berlin and throughout the Empire.

Secondly, specifications and claims for patents on American inventions are frequently presented in the form of translations made by persons who have only an acquired and superficial knowledge of German. Such translations, made with the aid of a dictionary, mechanically translate the words, and not the meaning, of important phrases, so that the specifications and clauses as filed are often incomprehensible. This entails additional correspondence, corrections, and frequently long delays which might have been obviated. Few persons, comparatively, are capable of translating a technical description so that it shall mean exactly the same in a foreign language as in the original, and it is this want of exact completeness that often loses a foreign patent or renders it, if gained, loose in its provisions and impaired in value.

Many inventors and even some attorneys in the United States seem not to understand that section 2 of the German patent law prescribes that an application for a patent in this country must be filed (1) before the invention has been disclosed in any generally accessible publication during the past hundred years and (2) before it has been so publicly used or exhibited in Germany that anybody skilled in the art to which it relates could carry out and utilize the invention.

This differs radically from the provision of section 4886 of the United States statute, as revised February 9, 1897, which allows the first inventor to obtain a patent on his invention even after it has been made known (except by previous patent, in which case the application must be filed within seven months after the date of the application for said previous patent), provided he files his application within two years from the time when the invention was first publicly disclosed. A want of exact knowledge concerning this variation between the practice of the two countries leads to the presentation of American claims in Germany which can not be granted, because the antecedent record of the invention in respect to publicity is in violation of the German law.

But the chief difficulty, upon which more hopes are wrecked than any other, is the radically different view taken by the American and German authorities as to what constitutes a single patentable invention. This difficulty is more especially obvious and serious in the case of a machine composed of a number of parts, on each of which priority of invention is claimed. Patents are granted in the United States for new constructions and combinations which in Germany would be required by section 20 of the imperial patent law to be divided and covered by several different patents. Consequently, applications are often received here which, being substantially translations of specifications prepared for use at Washington, have to be rewritten and divided into two or more individual devices before any examination can take place. This, of course, entails delay, expense, and introduces a new element of uncertainty into the case, since one or more of such separate claims, which are all covered by one American patent, may be rejected by the German examiners.

As an example of this fundamental variation in practice may be cited the sample specification and claims on improvements in a meat-chopping machine which is given in the Rules of Practice published by the United States Patent Office. The preamble states as follows the three objects to be obtained by the invention, viz:

(1) To provide a continuously lubricated bearing for the chopping block;

(2) To afford facilities for the proper adjustment of the knives independently of each other in respect to the face of the block; and

(3) To reduce the friction of the reciprocating rod, which carries the knives.

Then follow the four claims setting forth the separate elements of the machine by which these three problems are solved, and protection is afforded for the elements in the combinations by which the desired results are reached. To facilitate the reference, the exact wording of the clause is herewith given:

> (1) The combination, in a meat-chopping machine, of a rotary chopping block having an annular rib, with a table having an annular recess and a pocket communicating with the said recess, all substantially as set forth.
>
> (2) In a meat-chopping machine, the combination of a rotary chopping block with a reciprocating crosshead carrying knives, each of which is vertically adjustable on the said crosshead independently of the other, substantially as described.
>
> (3) The knife *d*, having two screw rods, *m m*, attached to its back, substantially as shown, for the purpose specified.
>
> (4) The combination, in a meat-chopping machine, of the reciprocating rod, carrying the knives, the crosshead secured to the said rod, and having antifriction rollers, with guides, adapted to the said rollers, all substantially as set forth.

Now, a German patent claim is what is known in American practice as "functional." It provides protection for the means employed in the solution of a problem, and characterizes the different elements by which the solution is obtained by their functions, instead of by their arrangement and combination. For instance, claim 1 of the foregoing series would need to be rewritten for the German examiners into a form substantially as follows, which would of course be expressed in clear, idiomatic German:

> A meat-chopping machine, in which vertically reciprocating knives operate in conjunction with a rotating chopping block, characterized by the fact that a rib provided on the under side of the rotating chopping block moves in an annular groove provided in a table and connected with a depression or recess filled with oil, for the purpose of sufficiently lubricating the block.

If such a claim were accepted in Germany as the first or principal claim, all the other claims in the same application would have to fall within its scope—that is, assist in obtaining the same end as is obtained by the first claim. But it is inadmissible in Germany to introduce the solution of a new problem in the second or following claims, so that in the instance above recited from the Rules of Practice, the second claim, which covers the combination of elements for obtaining the second object stated in the preamble, could not be included in the same German application as the claim 1, above quoted, because it relates to a different problem, or, in other words, is based on another and independent inventive idea.

It is impracticable within present limits to follow the comparison through in all its details, but it will be sufficient to say that these claims and specifications, covering three independent improvements on a known machine, and which can legally be covered by a single patent in the United States, would require three separate patents in Germany.

Each claim in the United States must be complete in itself, which not only means that no reference may be made from one claim to another, but also that each claim must cover a combination quite separate from and independent of the other claims.

Quite the opposite is the case in Germany. Here, the first claim is a statement of the invention, and all other claims must fall within the same scope. In this country, any number of "modifications" may be introduced in the subsidiary claims, while in the United States "alternative constructions" are inadmissible, and subject-matters introduced as "modifications" in subsidiary claims in Germany can only be properly claimed in the United States as new combinations, quite separate from and independent of the other claims.

Still another source of error is the lettering of drawings which accompany applications for German patents on inventions which have already been patented in the United States. In most cases the preamble, specifications, and claims are translations of the English text, in which a lever, for instance, is designated by *L*, a crank by *C*, a pinion by *P*, and so on. As the German rule requires that the first reference letter alluded to in the text must be *A*, the second *B*, and so on throughout, it is plain that the English initial letters, when fitted into a German translation in which lever is rendered by "Hebel," a crank by "Kurbel," etc., would not only be misleading, but meaningless.

An American inventor, who has had long experience in securing foreign patents for his inventions, gives it as his opinion that—

> Two-thirds of the first rejections of American applications for German patents and the failures of American inventors to secure prompt attention and early issue are justified by the loose, informal manner in which they are presented, and this often by international patent attorneys of large experience and high ability, but who are prevented by the great volume of their business from giving personal and expert attention to details which they know, or ought to know, to be prescribed by law and therefore of the first importance.

The subject is one of immediate and steadily growing interest. No foreign people apply for and obtain so many patents in the United States as Germans, and in no country is it more necessary and to the advantage of American inventors to protect their inventions by patents than in Germany. A clearer and more exact understanding of the many differences in practice and theory between the two countries, of which the foregoing are typical examples, would save not only time and money, but avert friction and litigation which might well be avoided.

FRANK H. MASON,
Consul-General.

BERLIN, *September 9, 1901.*

LIGNITE AND PEAT BRIQUETTES IN GERMANY.

The unprecedented scarcity and high cost of fuel last year and the unrelenting policy of the coal-producing syndicates in restricting their output to maintain high prices since the stress of demand has subsided have combined to stimulate experiments and inventions which have for their purpose the better utilization of the vast deposits of peat and lignite with which Germany is endowed. It is stated upon official authority that the turf or peat beds of the Empire cover an area of 4,942,000 acres, and it has been deemed a reproach to German science that with such a wealth of material the people should suffer for want of fuel.

Already during the past dozen years great progress had been made in the manufacture and use of briquettes from brown coal or lignite, held together by a matrix of bitumen, either developed in the material itself by heating or added as a by-product of gas and coke manufacture. These briquettes sell in Berlin for from $2 to $2.75 per thousand, are clean to handle, make no smoke, kindle readily, yield a quick, though somewhat evanescent, flame, and are the standard domestic fuel of the poorer and middle classes in most German cities. But the supply of brown coal is limited and its area restricted in comparison with that of peat, which has heretofore played an insignificant rôle in the fuel supply of Germany. This has been because of its large percentage of impurities, especially water, which in the humid climate of North Germany was difficult to eliminate, and which with the best preparation held the caloric value of weather-dried peat below the limit of availability for manufacturing purposes or even domestic fuel. The problem has been to devise a new and inexpensive process by which peat can be deprived of its excess of water, and, without admixture of bituminous or other coal, converted into briquettes of sufficient heating power to replace those made from other and more costly materials. Numerous processes more or less successful have been perfected and tested on an industrial scale, until finally one invented by Engineer Stauber is announced, which has the indorsement of the Royal Chemical Testing Station, at Berlin.

According to the published report of this institution, the briquettes made from turf by the Stauber method contain 45.14 per cent fixed carbon, 4.54 per cent hydrogen, 29.34 per cent oxygen, and 9.09 per cent ash, and have a thermal value of 3,806 calories. This is fully up to the standard of brown coal, which latter has the defect of containing from 1.04 to 2.64 per cent of sulphur, whereas the new turf briquettes are wholly free from that impurity, and are therefore adapted to a number of uses for which charcoal is now employed. German brown coal of average quality contains as it comes from the mine 60 to 65 per cent of water, and the secret of successful and economical briquette manufacture from that material is to reduce the proportion of water to about 12 per cent, by the application of just sufficient heat to melt the bitumen which it contains and soften the whole mass to a consistency at which it presses readily into briquettes or blocks, which on cooling harden and become solid and clean to handle.

The Stauber process for working peat consists, so far as has been thus far revealed, of a series of specially contrived machines by which the crude turf is pulverized, fibers, roots, and other impurities eliminated, the water removed by compression to the proper proportion, and the cleansed material reduced to a uniform consistency and pressed into molds by automatic machinery. To what extent heat is used, or whether coal tar is ever employed as a matrix to strengthen the structure of the briquettes, does not as yet appear. What is asserted on apparently trustworthy authority is that by the new process peat will to a large extent replace lignite as a cheaper and far more abundant material for briquettes, and that briquettes so made will have sufficient thermal value not only for domestic heating, but for making steam and various minor processes of manufacture for which bituminous coal has heretofore been deemed indispensable. It is expected that the new process will not only serve to greatly relieve the scarcity of fuel in Germany, but eventually furnish a surplus for export to Switzerland and Italy.

FRANK H. MASON,
Consul-General.

BERLIN, *August 22, 1901.*

GERMAN BICYCLE TRADE.

The following statistics are taken from the latest issue of the official organ of the German Bicyclists' Union:

During the four years 1897, 1898, 1899, and 1900, German imports of bicycles amounted to 546, 802, 513, and 385 tons, respectively, with a value estimated at 7,000,000, 6,300,000, 4,200,000, and 3,200,000 marks ($1,666,000, $1,499,400, $999,600, and $761,600). The exports during these four years amounted to 600, 1,602, 1,519, and 1,566 tons, with a value of 9,900,000, 12,600,000, 11,700,000, and 11,300,000 marks ($2,356,200, $2,998,800, $2,784,600, and $2,689,400). It is claimed that the above figures refer only to the metal parts of the bicycles, and that to the amount of imports should be added 100 tons for imported tires and saddles, worth 365,000 marks ($86,870). The imports came chiefly from the United States, viz, 224, 462, 190, and 122 tons; from Great Britain, 106, 75, 36, and 35 tons; from

France, 79, 90, 91, and 54 tons; and from Austria-Hungary, 72, 82, 75, and 68 tons, respectively. The exports were shipped chiefly to Sweden—90, 244, 142, and 147 tons; Russia, including Finland, 91, 159, 147, and 131 tons; Denmark, 78, 117, 128, and 159 tons; Austria-Hungary, 75, 467, 360, and 237 tons; Switzerland, 77, 142, 162, and 147 tons.

The German import duty is 24 marks ($5.71) per 100 kilograms (220.46 pounds). In other countries, the duty is as follows: Belgium, 12 per cent; Denmark, 10 per cent; France, 220 francs ($42.46) per 100 kilograms; Italy, 80 francs ($15.44) per 100 kilograms; Norway, 33.75 marks ($8.03) each, or 28.08 marks ($6.68) per 100 kilograms, if in part; Sweden, 28.08 marks ($6.68) each; Austria-Hungary, 25 florins ($10.15) each; Roumania, 8 francs ($1.54) per 100 kilograms; Russia, 38.96 marks ($9.27) each; Switzerland, 70 francs ($13.51) per 100 kilograms; and the United States, 45 per cent.

The German duty is less than that of other countries, except England, which has no duty on bicycles. The German product is replacing the foreign article more and more in the home market, and the imports are now only one-fourth of the exports. A few years ago, a Dresden factory wished protection from the Austrian competitors, and yet to-day the imports from Austria are not one-third of the exports to Austria. The imports from the United States were only 122 tons in 1900, and to Belgium Germany exported in 1900 fully 59 tons more than were imported from that country. With France the relation is the same, and England has received four times as much as she ever sent to Germany. On account of the high duties, an export trade to the United States is not possible, while the Americans can, unhindered, overstock the German market.

E. THEOPHILUS LIEFELD,

FREIBURG, *July 26, 1901.* *Consul.*

GERMAN WINE INDUSTRY.

The wine-producing states of Germany are the Rheingau, Bavarian Palatinate, Baden, Hessen, and Alsace. The Rheingau is a tract of land on the right bank of the Rhine, extending from Eltville to Rüdesheim, 12 miles long and 5 miles wide. Here are located the celebrated Gräfenburg, Steinberg, Marcobrunn, and Johannisberg estates. Within recent years, the wines of the Moselle have come very much into favor. They have a delicate, aromatic flavor and are considered very wholesome. The best qualities are the Brauneberg, Graach, and Pisport. The greatest wine-producing districts are in Baden and Alsace. These wines, however, are of a light quality and are rarely exported, being chiefly consumed in their respective districts.

Germany also produces a very good red wine in Assmannhausen and Ober-Ingelheim, on the Rhine; but the acreage devoted to the culture of this wine is so small that only a limited percentage sold under that name may be said to have been actually obtained from that locality. Germany imports vast quantities of red wine each year for mixing with wines of her own growth. In 1900, 4,788 tons were imported from Italy for this purpose, 1,319 tons from France, 1,272 tons from Greece, 4,878 tons from Austria-Hungary, and 3,478 tons from Spain. These wines were imported solely for mixing, and the fact gains in significance when we bear in mind the duty of $2.50 per ton. In 1897, not less than 2,414,823 gallons of German red wine were mixed with the vintage of southern countries. American firms buying German red wine for import can not be too careful in their selections. Excellence of quality is incompatible with lowness of price. Good Assmannhausen and Ober-Ingelheim red wine can not be purchased short of $75 and $50 per 100 bottles, respectively.

Great Britain and the United States are the largest consumers of German wine. In 1900, nearly 5,000 tons of the best Rhine and Moselle vintage were shipped in casks and bottles to the United Kingdom. This is fully 100 per cent more than ten years ago. In 1889, the United States purchased 4,700 tons of various German wines; in 1900, less than 5,000 tons, the shipments of the intervening years retaining the same general average.

The total wine export from Germany in 1900 amounted to 22,199 tons in casks and bottles together, valued at $4,864,720, an increase of 10 per cent over 1890. The wine imports of Germany vastly exceed the exports. In 1900, 75,300 tons in casks, valued at $9,244,400, were imported. Only 788 tons were imported in bottles.

The best wine years in Germany during the past decade were 1893, 1895, and 1897. From all reports, 1900 will also prove a good year. The vintage of 1893 was the best during the whole of the nineteenth century, and exorbitant prices are demanded for the Rheingau wines of that year. Many dealers offer old wines from the years 1811 to 1874, but American buyers should be cautious in ordering any wine older than 1874. It is true that old Rhine wines retain a delicious "bouquet," but they acquire a dead, leathery taste in time. They are often prescribed by doctors as a good wine for patients. It must also be borne in mind that old wines are kept in stock for the general purpose of mixing with other grades and qualities. Wine merchants often advertise for sale so-called historical wines, which have been bought in the cellars of some unfortunate prince or noble family once enjoying affluence and power. Such wines, together with those which have won medals at exhibitions, are sold at enormous prices, fully 100 per cent being paid for the name. These wines, however—especially the old wines—are often wanting in "bouquet" and flavor. The table wines of a good year's vintage will cost from $300 to $500 per 1,000 bottles. The Auslese wines sell on an average of $1 per bottle, while the Cabinet and Cabinet Auslese wines cost from $2.50 to $5 per bottle, respectively.

In buying wines, it may be found preferable to deal with old-established houses which have their places of business in the Rhine country. These firms for the most part have their own vineyards and possess far better opportunities of buying advantageously than firms located outside of the wine region or in the coast cities.

Some of the most prominent wine merchants are A. Wilhelmj, Hattenheim, Rheingau; P. J. Valckenberg, Worms; Franz Graf, jr., Geisenheim-on-the-Rhine; H. J. Kullmann & Co., Frankfort-on-the-Main; C. F. Eccardt, Kreuznach, Rheinland. The last-mentioned firm enjoys the reputation of having the largest wine export to the United States. Americans touring Germany should visit some of these wine estates. The cellars of old cloisters and castles are often used as storage places, the aisles and alcoves being filled with gigantic casks of wine.

Germany also produces a very good quality of champagne. In 1900, 2,045 tons, valued at $547,400, were exported. During the same year, the imports amounted to double that quantity. The duty on champagne imported into Germany is 35 cents a bottle. This high duty has induced many French firms to establish plants of their own within the German border.

JNO. F. WINTER,
ANNABERG, *August 5, 1901.* *Consul.*

THE GERMAN LEATHER INDUSTRY.

In my recent report on the German leather industry,* I stated that it was struggling against great odds to hold its own, and was becoming less profitable from year to year. German trade papers having questioned the accuracy of these statements, I submit herewith statistics and excerpts from the yearly report of a chamber of commerce in this vicinity.

The exports of leather from this district to the United States for the past ten years are as follows:

Year ended June 30—	Value.	Year ended June 30—	Value.
1892	$115,006.55	1897	$53,987.56
1893	151,728.36	1898	46,251.28
1894	90,703.70	1899	17,506.55
1895	79,945.30	1900	48.834.52
1896	80,195.61	1901	32.233.63

---

*ADVANCE SHEETS No. 1068 (June 21, 1901).

The annual report of the chamber of commerce of the city of Worms says:

> On the whole, the condition of the leather industry during the past year has not been favorable. * * * For a number of years past, we have pointed out in our report the disadvantage under which the German leather industry is laboring in competition with the American, owing to the low German tariff rates. We earnestly beg the chamber of commerce to use its influence to bring about a change of these conditions. * * * According to our view, the new tariff rates for American leather, which are under consideration by the Government, are entirely too low. They will not place the German leather manufacturers in a position to compete with America. * * * It is well known that the entire German leather industry operates under the most unfavorable conditions as regards profit making. In the various branches of the industry the profit, if there is any, is so infinitesimal that the least increase in the cost of production suffices in many cases not only to wipe it out, but even to cause a loss.

This is the tone of all reports of the various chambers of commerce, which shows that the statements in my previous report on the German leather industry were well founded.

WALTER SCHUMANN,
MAINZ, *August 5, 1901.* *Consul.*

STEAM HEATING AND PLUMBING IN GERMANY.

Improved methods of steam or hot-water heating, sanitary plumbing, and elevators have not been widely adopted in Central and North Germany. South Germany is said to be more advanced. In the city of Brunswick there are a large number of hotels, but as far as I know only one can boast of an elevator and steam heaters. Last year, steam heating was introduced for the first time in four newly built houses, and the apparatus was furnished by a firm in Geneva, N. Y. With a conservatism that is remarkable, the people adhere to the old system of heating by "Kachelofen," or stoves incased in tiles. These huge arrangements, standing in the corner of a room, look as if they would heat a whole house; but when their modest iron interior is examined, one is convinced that they do not suffice to heat a room. There is no word in the German language for furnace, and this method of heating is known here as "Central Heizung," or central heating. Lately, there has been introduced in a new flat a method of heating through steam or hot water, the apparatus standing in the hall or corridor of each story. This system has not been tested yet. Most people in Germany live in flats; there are but few private residences. The difficulty in heating an apartment building from the basement has been the distribution of the expense, as each family must pay for its own fuel. This expense is not assumed by the landlord. As to plumbing, the kitchen ranges are without water backs, and when hot water is required for a bath, a fire must be made under a stove surmounted by a boiler in the bathroom. There is unquestionably a large field, which has not been adequately worked, for American enterprise. Manufacturers and dealers in elevators, heating apparatus, and plumbing materials who desire to introduce their goods should have advertising matter in the German language. Probably the best way of introducing goods of these kinds is to establish an agency or store where the articles can be inspected.

TALBOT J. ALBERT,
Consul.

BRUNSWICK, *August 16, 1901.*

GERMAN EXPORTS OF PORTLAND CEMENT.

Germany's exports of Portland cement have considerably increased during the last few years; even in 1900, notwithstanding the unfavorable business situation, a further increase has been noted. In 1894, the exports of Portland cement from Germany amounted to 362,000,000 kilograms (796,400,000 pounds); in 1900, to 543,990,000 kilograms (1,196,778,000 pounds), or 15,315,000 kilograms (33,693,000 pounds) more than in 1899.

From Stettin, the exports of Portland cement have decreased; these amounted to 80,632,000 kilograms (177,390,400 pounds) in 1900, against 88,689,000 kilograms (195,115,800 pounds) in 1899. On the other hand, Hamburg has taken the leading place, and trade has further developed in 1900, although the increase was not so considerable as in the preceding year. In 1900, the exports of Portland cement from Hamburg amounted to 306,571,800 kilograms (674,457,960 pounds), valued at about $3,000,000; in 1899, to 293,483,900 kilograms (645,664,580 pounds), valued at about $2,950,000.

For many years, German Portland cement has enjoyed the reputation of a first-class product. The principal country importing it from Hamburg is the United States, which alone took 115,381,400 kilograms (253,839,080 pounds); however, in previous years, the exports thither have been more considerable. The reason of this retrogression is evidently the development of home industry in the United States, which has caused several cement factories located in the vicinity of Hamburg to open branches there.

After the United States come Australia, with 32,100,000 kilograms (70,620,000 pounds); Brazil, with 19,300,000 kilograms (42,460,000 pounds); and Cape Colony, with 17,200,000 kilograms (37,840,000 pounds). Since 1896, the exports to Cape Colony have been quintupled. Among other countries importing Portland cement may be mentioned the Argentine Republic, Chile, and British

North America. The chief exports to European countries were made to Great Britain, Norway, Spain, and Portugal.

The exports of Portland cement via Bremen showed a slight decrease last year, amounting to 49,123,400 kilograms (108,071,480 pounds), compared with 52,332,400 kilograms (115,131,280 pounds) in 1899.

Since German manufacturers have deemed it necessary to start branch factories in the United States, in order to favorably compete in that country with its home industry, it is evident that the American cement industry is rapidly growing, and there is no doubt that there will soon be a field for our product in South America, Asia, Africa, and Australia.

HUGH PITCAIRN,
Consul.

HAMBURG, *August 27, 1901.*

AGRICULTURAL MACHINERY IN GERMANY.

In making a short tour of inspection through the extreme western end of this consular district—between the Duchy of Saxe-Meiningen and Bavaria—a part of the country entirely devoted to agriculture, with exceedingly rich soil, I was surprised to see the old-fashioned implements employed in cultivation. Modern farm machinery was used in very few instances, and as a rule the so-called improved tools were German imitations of American machines. The people in these rich valleys are mostly well to do, and if modern machinery were properly introduced by a canvass from village to village, on the part of able salesmen who could speak the German language, a capital opening for our improved agricultural machines and implements could be secured. Nothing can be gained, however, by sending catalogues printed in English. There are many small cities and towns scattered through these farming lands—Neubrünn, Ritschenhausen, Nordheim, Berkach, Hollstadt, Münnerstadt, Grosswenkheim, Neustadt an der Saale, Bad Neuhaus, etc.—directly on or close to the railroad between Meiningen and Schweinfurt. They could be visited one after another; the late fall months or the early winter ones would be the best time. If our exporters wish to take advantage of this report, they should do so at once; otherwise foreign manufacturers, many of whom read our CONSULAR REPORTS, are apt to step in and reap the benefits.

OLIVER J. D. HUGHES,
Consul-General.

COBURG, *August 29, 1901.*

AMERICAN LOCOMOTIVES IN EUROPE.

Up to the present, in spite of the large and continued importation of American machinery, the American locomotive, which has for many years been largely and successfully used in Russia, can hardly be said to have made more than an appearance in Germany.

The Bavarian state railway authorities have during the past two years ordered and used a small number of American locomotives for experimental purposes, and the Prussian Government is also operating a couple of our engines. Up to the present no official report has been made as to the results of these experiments, and although the Bavarian authorities promised the Society of German Engineers at Berlin full information, it may still be a long time before any definite official report is made. It has been ascertained, however, through reliable private sources, that the results obtained in Bavaria have been highly satisfactory, and have dissipated the belief which has hitherto prevailed in official circles that American engines were not adapted for use on German railroads. It is therefore considered extremely probable that the American type of engine will be built by the German locomotive builders within a short time. The Prussian railroad authorities are at present experimenting with the so-called superheated steam engines made by Schmidt, in Cassel. Should these tests not prove satisfactory, it is thought likely that the American type of locomotive will be adopted in Prussia. Both cars and trains are uniformly much smaller and lighter in this country than in the United States, with the result that the percentage of dead weight hauled is greater and freight rates—especially for long distances—very much higher. The 10-ton freight car is still all but universal in Germany. Serious complaints are made by shippers of heavy freights, such as the iron and steel manufacturers of Westphalia, over high freight rates on their raw materials and products, and considerable pressure has been exercised to secure reductions. Since 1893, the year of the Chicago exposition, no important fact of American railway development has escaped the attention of German railway managers. Expert commissions and individual engineers have gone to the United States and spent months in studying every detail of construction and management. The vestibule express train and the sleeping and dining car have been copied almost literally. More recently, the enormous freight trains of 40-ton cars, drawn by powerful locomotives worked up to their full capacity, have taught the German engineers the secret of cheap and effective freight traffic, and there is a demand for a new policy of larger and heavier rolling stock, in which both cars and engines shall be enlarged to the limit of safety with the present weight of rails and efficiency of tracks, bridges, switches, etc. This increase in weight will unquestionably bring a nearer conformity with the American type of freight engines. The somewhat unfavorable report of the Midland Railway of England as to the results of its practical use of American locomotives has been explained by an American engineer to have been largely due to the fact that the heavy, powerful American engines were used to perform the same kind and quantity of work as the smaller English ones. According to the superintendent of the railroad, "the American locomotives which have been employed since the middle of 1899 are £500 ($2,433.25) cheaper in first cost, and are satisfactory as to power, but consume from 20 to 25 per cent more coal than those of English make. As good engines can be built in America as in England, but, owing to the different methods of railroading in the two countries, the British locomotives are better adapted for use in England."

The German State railways buy their fuel from the coal and coke syndicates, and pay what would be considered in America exorbitant prices. Economy in fuel consumption is therefore, and must remain, a point of prime importance, and no type of locomotive will be adopted by the Bavarian or Prussian railway administrations which does not conform closely to the German standard of efficiency in this respect. The American engines which have been thus far ordered and used in this country have been bought for purposes of study and experiment, and however efficient they may prove to be it is, for obvious reasons, not to be expected that the German state governments will place any large contract for locomotives or other railway material with other than German manufacturers.

Aside from the railways owned and managed by the several state governments, there are a number of small lines, generally of a secondary nature, which are owned and operated by private companies independent of any political obligation and ready to buy their rolling stock where it can be obtained to the best advantage. Of the 18,291 locomotives in service in Germany in 1899, 17,491 belonged to the State railroads and 800 to private railway corporations.

The average weight of engines on German State railways is 42.67 tons, while those in use on private roads average 37.68 tons. During the year 1899, 446 engines were purchased by the State railways and 56 by private companies. In the year 1898, $556,000 was spent for the purchase of new and the repair of old engines on private lines. These figures show the limited nature of the opportunity in Germany which is open to American competition.

There are in Germany five or six leading locomotive builders who have grown up, so to speak, with the railway development of this country. The present equipment of both State and private lines is substantially their work. They are careful, conscientious builders, but slow, and one of the chief advantages which an American competitor would have is in the rapidity with which delivery could be made under urgent circumstances. In Germany, it is necessary to wait from four to eight months, and often for much longer periods, from the date of an order before the locomotive can be delivered, and, in case of injury to a part, it generally requires some weeks before it can be replaced. It is also customary in this country to order locomotives from drawings or catalogues, so that the purchaser has not the advantage of actual inspection of the machine which he needs for a certain service. The American system of building locomotives of certain uniform types, with interchangeable parts, is recognized as an advantage, and this, added to their lower cost and earlier delivery, constitute their chief merits for the European trade.

It goes without saying, however, that the principal opportunity for American railway engines is in countries which, unlike Germany, France, and England, have no adequate facilities for building them at home. Such opportunities exist most notably in Russia, Turkey, and the Balkan States, where considerable railway construction is now in progress and still more projected. No locomotives are manufactured in Turkey or the Balkan States, where German capital is being invested and where important development is to be expected within the next ten or twenty years.

In order to sell American locomotives in Europe, it would seem desirable that our leading American locomotive builders should establish an agency at some central location, such as Berlin or Paris, where close track could be kept of the needs of the European market and whence representatives with good technical education could be sent to confer with representatives of foreign railroads. The importance of having representatives of sufficient technical knowledge to answer all possible questions and versed in foreign languages was strongly insisted upon by a very successful seller of American machinery, with whom the matter was discussed. Recent sales to France and Russia and the satisfactory results of the experiments in Bavaria tend to show that there exists an opportunity for the sale of American locomotives in Europe. In order to make the most of this opportunity, all possible facilities should be given to the foreign buyer to judge of the nature of the American locomotive without the necessity of sending or going to the United States.

DEAN B. MASON,
Vice and Deputy Consul-General.

BERLIN, *August 9, 1901.*

NEW VIADUCT AT LUXEMBURG.

Vice-Consul-General Murphy, of Frankfort, under date of August 14, 1901, sends plans of the new stone viaduct at Luxemburg, furnished by the architect, M. Sejourné, a French engineer.* Mr. Murphy says:

The following facts in regard to the bridge may be of interest. The Cabin John Bridge has long enjoyed the distinction of possessing the largest stone arch in existence, the length of its chord being about 67 meters (219.8 feet). The stone arch next in importance is at Lavaur, France, with a chord of 61½ meters (201.8 feet). The Luxemburg arch is to have a span of 84 meters (275.6 feet), and will accordingly be 55.8 feet longer than the arch of the Cabin John Bridge. The roadway will be 44 meters (144.4 feet) above the Petrusse River, a small brook whose deep valley separates Luxemburg from the site of its new railway station.

There will be really two distinct parallel bridges, 6 meters (19.7 feet) apart, whose foundations will be of concrete. The whole plan of construction is new and remarkable, as an examination of the plans will at once show.

The total width of the bridge between the parapets will be 16 meters (52.5 feet). The stone used is of excellent quality and is furnished by quarries in the immediate vicinity. The materials required are as follows: Masonry, 22,000 cubic meters (776,952 cubic feet); wood for scaffoldings, 800 cubic meters (28,252 cubic feet); metals (iron, zinc, and cables), 45 tons.

The bridge will cost 1,400,000 francs ($270,000), and is being built by the Government of the Grand Duchy of Luxemburg at its own expense.

Preliminary work was commenced in December, 1899, and it is intended to open the viaduct for traffic in the spring of 1903.

THE ELECTRICAL HIGH-SPEED EXPERIMENTS AT BERLIN.

The preparations for the high-speed electrical-traction tests on the military line between Berlin and Zossen† are now practically complete, and it is expected that the trials will begin about the middle of September. As the time approaches, both popular and scientific attention become more closely centered upon these experiments, the result of which will have such an important meaning, not only for Germany, but for all civilized countries, and among these probably first of all the United States. If an electric-motor car, taking its current from overhead wires and running upon an ordinary standard-gauge railway track, can carry with safety fifty or sixty passengers at a speed of from 80 to 150 miles an hour, then it is evident that the first ten years of the twentieth century will see the means of travel between populous cities and districts, in America as in Europe, practically revolutionized.

---

*Sent, at the request of Mr. Murphy, to the Engineering Record, of New York.

†See ADVANCE SHEETS No. 1103 (August 2, 1901); CONSULAR REPORTS No. 253.

The success of the electric car in rounding curves of small radius, climbing and descending easily grades which entailed all but hopeless difficulties to horse cars, and in general adapting itself to all the exigencies and requirements of intramural and suburban traffic has led the nontechnical public, here as in America, to expect an easy and prompt solution of the high-speed problem. From the popular standpoint, all that seemed necessary was a straight, clear track, an adequate current of high potential turned into a car motor of sufficient power, and the result would be achieved. Only the experts have realized that a speed of even 80 miles an hour with a single car involves questions of air resistance, weight and form and balance of vehicle, electrical transmission at high voltage and conversion to lower potential at some point between generator and motor, and a dozen other equally important points which are new and untried in actual practice, and which have to be approached with caution and experienced knowledge in order to avoid danger of accidents that would discredit the whole enterprise at its outset. As the association which is undertaking at its own expense this most important demonstration includes a number of the foremost electricians in Germany, every step in the process of preparation for the coming tests is watched with intense interest by the engineers of other countries, and passenger railway construction may be said to have paused to await the result of these experiments. The following additional specifications will make clear the nature of the problem which has been attacked, and the means by which, it is hoped, it may soon be solved.

The scene of the experiments is a stretch 23 kilometers (14.29 miles) in length, from Marienfelde to Zossen, on the military railway line which runs southward from Berlin to the place last named. The line is of standard gauge, single tracked, level, and nearly straight, there being but one slight curve—1,100 yards radius—near the southern extremity. The rails are of steel, weigh about 65 pounds to the yard, and are laid on wooden ties. During the past summer, the track has been carefully surfaced, defective joints remedied, and ties and ballasting put into perfect condition. Along this line have been set at intervals of 100 feet stout poles 20 feet in height, at the top of

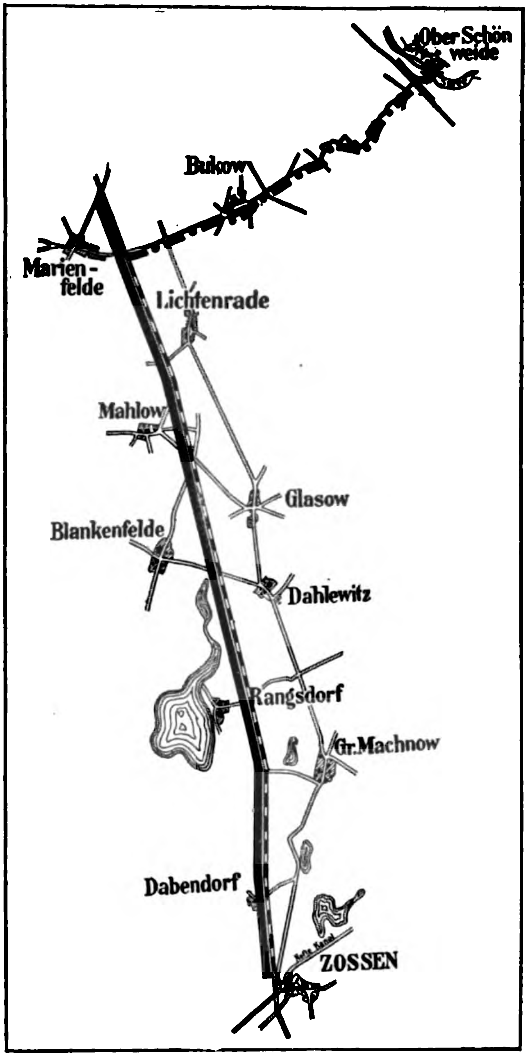


FIG. 1.—MAP OF THE LINE.

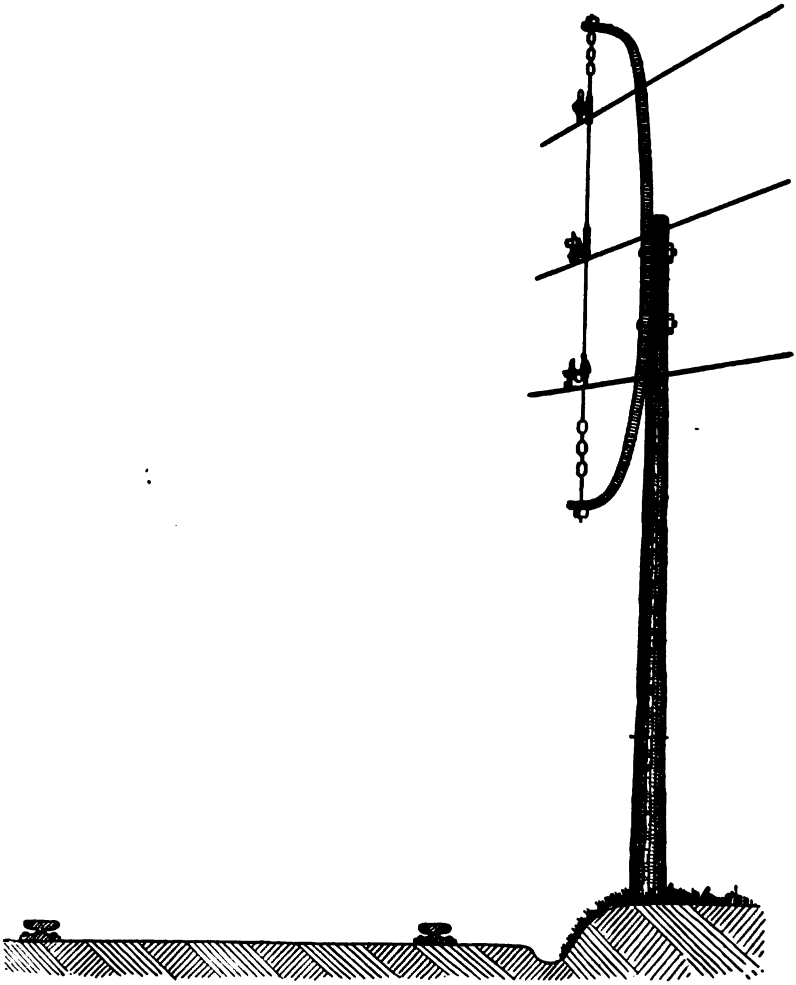


FIG. 2.—SHOWING METHOD OF STRINGING WIRES.

which is set in a vertical position and fastened by bolts a bow or arch of angle iron 10 feet in length (fig. 2), the chord of which supports the three brackets for insulators from which the three lines of conductors are hung. The conductors are ordinary copper wires about three-eighths of an inch in thickness, so hung that the trolley can make full contact from beneath.

These will carry a three-phase alternating current of 10,000 to 12,000 volts, to be generated at the works of the General Electrical Company at Oberschönweide, on the River Spree, about 5 miles northeast from Marienfelde, between which two points a special overhead line for transmission has been provided. One of the conditions of the problem is that this high voltage, so essential for effective transmission, shall be reduced to a safe and practicable pressure by transformers carried in the motor car itself. The measure of speed to be attempted is 200 to 220 kilometers (124 to 136 miles, approximately) per hour, and the electrical apparatus must be sufficiently strong and heavy so that a run of 250 kilometers (155 miles) can be made at extreme speed without danger of overheating.

For this purpose, two third-class passenger cars of the standard type used on the Prussian State railways have been built by Messrs. Van der Zuypen & Charlier, at Cologne, and turned over to Messrs. Siemens & Halske and the General Electrical Company of Berlin, respectively, each of whom have furnished the electrical equipments of one car according to their own ideas. There will be therefore two competitive machines, each representing the highest scientific skill of two leading electrical manufacturers of Germany.

The cars are 22 meters (72.18 feet) in length and weigh 90.5 metric tons, of which 48 tons comprise the body and running gear (viz, two six-wheeled spindle trucks of the American type) and 42.5 tons are made up by the motors, transformers, and other details of the electrical equipment. Each car is designed to accommodate fifty passengers, who with the driver and conductor will add about 4 tons to the aggregate weight of the carriage. The motors are four in number, with an aggregate energy of 1,000 horsepower, and are attached to the front and rear axles of each truck, the middle pair of wheels in each group of three running free. In the car equipped by Messrs. Siemens & Halske, the motors weigh 4,075 kilograms (8,984 pounds), the transformers—which weigh 12 tons—are hung centrally beneath the floor, and a storage battery of 300 kilograms (631 pounds) weight supplies current for lighting purposes. The ends of the car are pointed to minimize wind resistance, and it runs, of course, in either direction. The wheels are 1,250 millimeters (49 inches) in diameter, and are rigged with pneumatic brakes of the

Westinghouse type. It is expected that the current will be reduced by the transformers carried under the floor of the car from the initial voltage of 10,000 or 11,000 to a potential ranging from 1,150 to 1,800 volts, which it is assumed will be sufficient to attain the proposed speed without danger to machinery or operatives.

FRANK H. MASON,
Consul-General.

BERLIN, *September 4, 1901.*

THE WASTE-HEAT AUXILIARY ENGINE.

In a former report of this series,* some account was given of a series of experiments which had been made at the Royal Technical High School, in Charlottenburg, with an auxiliary motor designed to increase the efficiency of stationary steam engines by utilizing the heat which goes to waste in the exhaust steam of a high-pressure, or in the circulating water of a low-pressure, or condensing, steam engine. These experiments had been conducted by Prof. E. Josse, chief of the machinery department of that renowned institution, and had been described by him in a lecture delivered at its centennial celebration, which took place in the autumn of 1899.

As the result of these trials was to demonstrate an economy of from 35 to 40 per cent in the generation of power, a company was organized for the purpose of working out the new system, and preparations were made to continue the experiments by Professor Josse on a much larger scale, under conditions which would permit of absolutely complete and exact measurements at every stage of the process, and give a conclusive verdict as to the cost, practicability, and economic value of the invention.

Not only have these experiments been continued, but a waste-heat engine has been built and put into service at the central station of the Berlin Electrical Works, where it has been daily in operation during the past three months, and its efficiency carefully recorded. It is the purpose of the present report to state concisely the results of these tests and the resulting status of the waste-heat engine as an economic factor in the generation of power.

It is well known that a large proportion of the thermal energy delivered to a steam engine from its boiler is lost in the unused steam which exhausts into the air of a noncondensing engine or is absorbed by the cold water of the condenser in a low-pressure machine. Compound engines of modern improved types economize this waste power to an important degree by using the steam successively in a second, third, and even fourth cylinder, but even then there remains a dead loss of about 80° of heat, namely, the difference between the temperature of the condenser (140° F.) and that of the circulating water, which will average about 60° F. The idea of the present invention, as described in the previous report above cited, is to utilize this wasted heat for evaporating a liquid which boils, and therefore volatizes, at a much lower temperature than water. Two of such liquids—ammonia and sulphur dioxide (SO_2)—have been successfully used in the refrigerating industry. For the reasons that sulphur dioxide has a viscous consistency and does not attack, but, on the contrary, lubricates, iron, and because the pressure of its vapors at the temperature of waste steam is readily controlled, it has been used from the first as the best material for this purpose. At 140° F., which is the temperature of steam in a maximum or 80 per cent vacuum, sulphur dioxide vapor has a pressure of 156½ pounds per square inch, while at 60° F., the mean temperature of the cooling water in the condenser, the pressure is about 41 pounds per square inch. There is therefore a range of 80° F., throughout which the exhaust steam from a steam engine will evaporate sulphur dioxide with such energy that its vapor will exert a ready and potent expansive force. The conservation of this expansive force as a mechanical motive power is the function of the "waste-heat," or, as it is otherwise called, the "cold-steam," engine. For this purpose, an additional or auxiliary single-cylinder engine is placed adjacent to the steam engine and geared either to the same driving shaft or run independently with its own driving shaft and fly wheel. The sulphur dioxide is evaporated by the exhaust steam heat in a special type of boiler called the "atomizer." The vapor thus generated passes through the cylinder, and, its effective work being done, it escapes into the SO_2 condenser, where it is condensed to liquid form and pumped back into the vaporizer, thus forming a cycle and being used over and over again indefinitely, as has been fully described in the previous report, which described the experiments down to the close of 1899.

---

*ADVANCE SHEETS No. 663 (CONSULAR REPORTS No. 235, April, 1900).

We come now to the subsequent operations. Although the process is technically direct and simple, it was found to involve in practice several new mechanical difficulties. As sulphur dioxide gas is deleterious to the lungs, it was necessary to make all joints and packing—particularly that of the valve and piston rods—so perfect that however great the pressure, none of the dioxide gas or liquid should escape. In the presence of air or water, the neutral dioxide rapidly oxidizes into sulphuric acid (H_2SO_3), which attacks iron and other metals. It is therefore necessary that the whole apparatus shall be air and water tight, and this, to resist an internal pressure of 150 pounds per square inch, requires good materials, first-class workmanship, and intelligent supervision when in operation. The surface condenser, which is required to transmit great quantities of heat energy with a minimum loss of temperature, also required some special adaptation to the treatment of sulphur dioxide vapor. All these difficulties, as revealed by the experiments in 1899, were carefully provided for in the new plant.

This was a cold-vapor cylinder of 10½-inch bore and 19½-inch stroke, which was attached to a 150-horsepower triple-expansion Görlitz engine of high efficiency, which is regularly employed at the Technical High School for electric-lighting and experimental purposes. The engine is of an improved modern type, the high and intermediate pressure cylinders being placed tandem and horizontal, while the low-pressure cylinder is vertical, and all three act upon the same crank and driving shaft.

The cold-vapor cylinder is made of cast iron covered, not with a heating jacket, but with a simple sheet-iron casing packed with felt. It is proportioned for a maximum working pressure of 215 pounds per square inch.

The vaporizer and condenser (fig. 2) are of iron, cylindrical in form, and about 10 feet in length. They are set in a steel frame, one above the other, and the pump which injects the liquid dioxide coming from the condenser up into the vaporizer is shown underneath the condenser. Both contain a system of tubes very carefully made and fitted, so as to prevent the leakage of water or dioxide. The vaporizer, which fulfills the function of a cold-steam boiler, is of 34⅝ inches internal diameter, and has about 753 square feet of heating surface, by which the exhaust steam of the engine acts upon the liquid dioxide and converts it into vapor. It then passes through the cold-vapor cylinder and returns to the condenser, which has an internal diameter of 41 inches and about 720 square feet of cooling surface. Valves are set in both pipe systems, so that sections can be cut out for examination and repair without withdrawal of the dioxide. The feed pump is worked by an eccentric on the main shaft, and requires only three-fourths of 1 per cent of the developed power of the engine. The above arrangement of the different parts is of course merely arbitrary, and was adopted to secure the utmost economy of space, but the condenser and vaporizer may be placed in any desired position convenient to the engine and best adapted to local conditions. Thus constituted and arranged, the waste-heat engine at the Technical High School has been run almost continually since the end of September, 1900, without accident or any serious difficulty. During the hours when the storage batteries are being charged, it has been run up to a speed of 168 revolutions per minute.

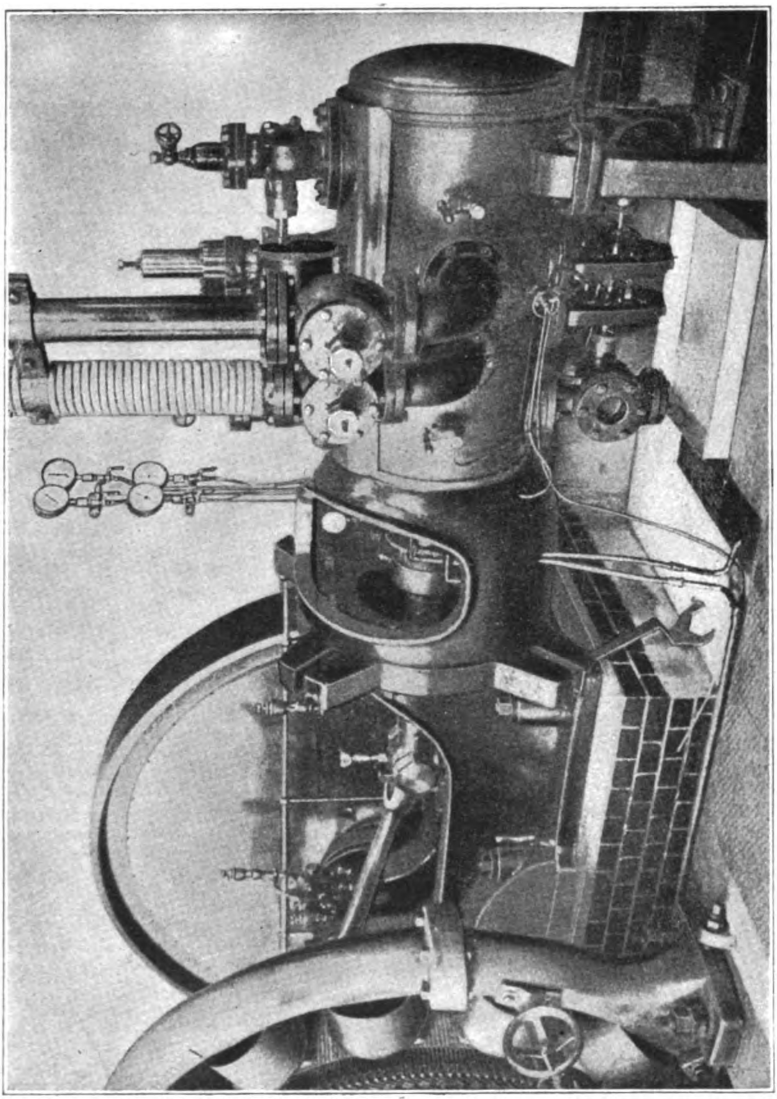


FIG. 1.—WASTE-HEAT AUXILIARY ENGINE.

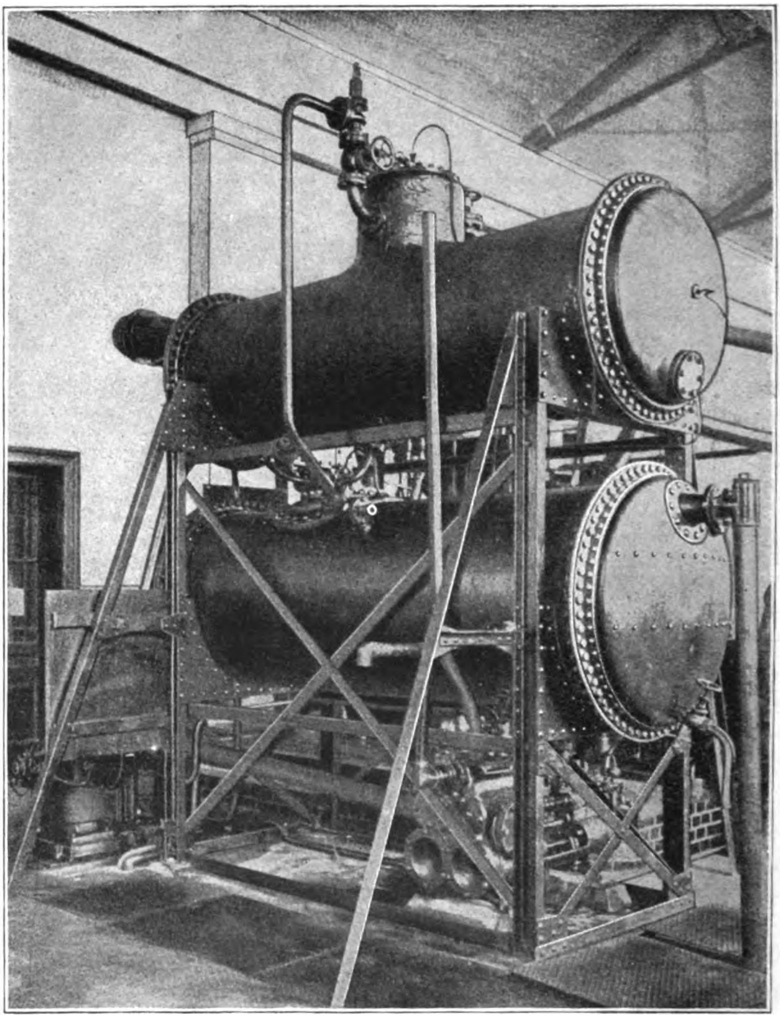


FIG. 2.—VAPORIZER AND CONDENSER.

The load has been a direct-connected continuous-current dynamo, with a rated output, at 150 revolutions, of 400 ampères and 240 volts, which, as the official report states, was sometimes overloaded as high as 40 per cent as a means of testing the increased capacity obtained by the addition of the waste-heat cylinder. The result, in respect to both steam consumption and electrical output, has been measured by the highly perfected standardized instruments and methods with which the Technical High School is fully equipped. The complete official record, which is transmitted as an exhibit with this report,* is too elaborate and technical for comprehension by other than an expert reader; but it will be sufficient for the present purpose to say that as a net result the waste-heat engine delivered an additional energy equal to 34.2 per cent of that of the triple-expansion steam engine. Its economy is measured by the fact that, when working, it enabled the steam consumption to be reduced from 11.2 pounds to 8.36 pounds per indicated horsepower hour, a very successful result when the smallness of the unit is considered. The same proportionate saving in large engines of 2,000 or 3,000 horsepower would constitute a highly important economy in these days of costly fuel and insatiable demand for vast steam power in electrical power and lighting stations.

While these careful and continuous experiments have been in progress at the Technical High School, a cold-vapor-engine plant has been constructed, put in operation, and tested in actual daily service at the central station of the Berlin Electrical Works in Markgrafen Strasse. This is the oldest of the power stations of the company, and is equipped with what is now considered relatively small units, viz, vertical compound engines of 360 horsepower, of Belgian construction, which have an average steam consumption of 18.35 pounds per indicated horsepower hour. With a steam consumption as high as this, there is abundant chance for economy by utilizing the waste heat. Moreover, this was a case in which more power was urgently needed at the station. Either the cold-vapor auxiliary plant or new steam boiler and engine had to be supplied.

Accordingly, a cold-vapor engine of 175 horsepower was built by Freund, of Berlin, and put in operation in May of this year. It is a single, horizontal cylinder machine, the piston being 17¾ inches in diameter, with 20-inch stroke, and, unlike the smaller engine at Charlottenburg, is geared independently to a directly coupled dynamo, which feeds into the service cables of the company. Working thus as a separate unit, the efficiency of the cold-vapor engine can be measured and recorded with great precision, and the net result may be condensed into the statement that at an average speed of 130 revolutions per minute it delivers 150 brake horsepower—an addition of 41.7 per cent to the working energy of the compound steam engine, from which it receives and utilizes the waste heat in form of exhaust steam. What this means will be made more plain when it is considered that the combined power stations of the Berlin Electrical Supply Company contain steam engines which, with an average steam consumption of 12.3 pounds per indicated horsepower hour, have a total output of 142,300 horsepower, to which, by the use of cold-vapor engines, there may be added 55,000 horsepower without increasing by so much as a pound the consumption of coal. The system adapts itself with especial readiness to large plants which, like power and lighting stations in growing cities and towns, have to meet a steadily increasing demand for current. This the cold-vapor engine enables them to do without increase of boiler or steam-engine capacity, by simply saving heat energy which has previously gone to waste.

---

* Filed for reference in the Bureau of Foreign Commerce.

Although it has been from the first in careful and scientific hands, it need hardly be said that the dioxide-vapor engine is as yet in the infancy of its development and application. It has been regarded with skepticism and incredulity by most practical engineers in this country, but these have yielded to the hard logic of its demonstrated efficiency. It has not yet been tested on shipboard, but it is believed that in view of the tremendous losses of heat energy in the condensers of an ocean greyhound, the abundance of cooling water, and with all the incentive to fuel economy at sea, its most important future application may be in connection with marine engines. It has not yet been tested with the waste heat of furnaces, although it is well known that even in the best installations from 20 to 25 per cent of the thermal energy generated by the burning coal escapes up the chimney. The burnt gases and heated cooling water of gas engines are also a leak of wasted energy which the cold-vapor engine may in future serve to close. Experience shows that in an average gas engine not more than 26 per cent of the thermal energy of the gas is transformed into work, while 71 per cent is carried off in the waste gases and water of circulation. The gas engine is only less wasteful than the steam engine; both leave a wide margin of loss to be garnered and saved by the resources of modern science.

The report of Professor Josse, from which the foregoing results are derived, goes extensively into the question of comparative costs of installation. Condensed to their most concise compass, his conclusions are that a combined steam-waste-heat plant of 1,600 horsepower, including compound steam engines of 1,200 indicated horsepower and a cold-vapor plant of 400 indicated horsepower, complete in every detail, would cost in Germany 212,000 marks ($50,456), while a triple-expansion steam engine of 1,600 horsepower, without vapor engine, would cost 206,000 marks ($49,028), a difference of only $1,424, which, with steam coal at $4.15 per ton, as at Berlin, would be saved in a short time by the cold-vapor auxiliary.

Coming down to actual facts, the net cost of the 175-horsepower waste-heat-engine plant at the Markgrafen street power station was 49,700 marks ($11,828.60), and of a gas-engine plant, also of 175 horsepower, 47,625 marks ($11,334.75), a difference so slight as to be negligible in presence of other and more important considerations.

FRANK H. MASON,
Consul-General.

BERLIN, *August 13, 1901.*

GERMAN TOBACCO INDUSTRY.

In Germany, tobacco is grown in Baden, the Palatinate, Alsace, on the Lower Rhine, in the Altmark of Hanover, and in some districts of Silesia. It is impossible for Germany to produce sufficient tobacco for her own consumption. In no other country in the world is the cigar so popular. On the other hand, chewing tobacco, except in the port cities, finds no market. Snuff is still used to a very large extent among the working classes.

The Dutch colonies of Java and Sumatra furnish Germany with more tobacco than any other country. In 1900, the Empire imported 58,173 tons raw from all the different tobacco-producing countries. The total imports amounted in value to $21,420,000. Nearly 26,000 tons came from the Dutch colonies and 10,452 tons from the United States. The States of Kentucky, Virginia, Maryland, and Ohio raised most of this American tobacco, which the German manufacturer has rolled into cigars or pulverized into snuff. During the past year, 73 tons of raw tobacco were shipped from the Philippines to Germany.

Last year, 386 tons of cigarettes, valued at $1,737,000, or fully five times as many as ten years ago, were consumed in Germany. These cigarettes came from France, Austria-Hungary, Russia, Turkey, Egypt, Algeria, and the United States, 60 per cent coming from Egypt.

In 1900, Germany exported and imported exactly the same quantity of cigars—namely, 313 tons. A great difference, however, existed in the quality. The imports for last year amounted in value to $2,000,000, while the exports were valued at only $800,000. Tobacco produced in Germany is used for mixing with better grades imported from other countries.

JNO. F. WINTER,
Consul.

ANNABERG, *September 2, 1901.*

FRANCE'S DEFICIENT WHEAT CROP.

France is disturbed at present over a deficient wheat harvest, a deficiency all the worse as the grain is very inferior in quality. Wheat has risen 2.50 francs (48 cents) per 100 kilograms (220.46 pounds), and the price of a quartern loaf of bread has already advanced from 65 centimes (12.5 cents) to 70 centimes (13.5 cents).

THE AMOUNT OF DEFICIENCY.

The annual consumption of France, including seed wheat, is 122,000,000 hectoliters (346,236,000 bushels). Substracting from this the 10,000,000 hectoliters (28,380,000 bushels) now in reserve leaves 112,000,000 hectoliters (317,856,000 bushels) necessary between now and this time next year. How much of this the present harvest will supply is uncertain. M. Cornu, the general secretary of the National Association of French Millers, is reported as saying that he thought the crop might reach last year's figure—109,000,000 hectoliters (309,342,000 bushels)—and that the reserve would be sufficient to provide for the 13,000,000 hectoliters (36,894,000 bushels) deficit. But next year, he adds, unless there is a wonderful harvest, France will have to apply for breadstuffs abroad. In certain quarters, however, quite a different opinion prevails. Some authorities say that this year's yield will not be over 103,000,000 hectoliters (292,314,000 bushels); others figure as small a supply as 87,000,000 hectoliters (246,906,000 bushels), and a deficiency to come from abroad of 35,000,000 hectoliters (99,330,000 bushels), the same as in 1897.

THE CAUSE OF DEFICIENCY.

Within the last decennial period, three years have been especially deficient—1893 yielded only 97,000,000 hectoliters (275,286,000 bushels); 1897, 87,000,000 hectoliters (246,906,000 bushels); and 1900, 109,000,000 hectoliters (309,342,000 bushels). This constantly recurring deficit is as logical as chronological. The varying mood of nature is not the only cause. The increased development of manufacturing, the flocking of the peasants to the town and city industries, the partial belief that the country can buy wheat cheaper than it can raise it, the greater profits gained from growing beets for sugar and alcohol, the replacing where possible of wheat fields by vineyards—these are the processes that will some day perhaps allow the profitable introduction of American wheat, if not flour, all over France.

CHANCES FOR AMERICAN FLOUR AND WHEAT.

So strongly organized is the French milling industry that the importation of flour presents a serious difficulty. L'Association Nationale de la Meunerie Française was founded in 1886, with headquarters at Paris, and at present it numbers between 3,000 and 4,000 members. So great is the capital invested in mills, and so strenuous are the efforts of this alliance against foreign competition, that since the 27th of February, 1894, the tariff on flour has been about double that on wheat, which condition enables the French to import wheat, grind it, and sell it cheaper than imported flour. While Paris and a few of the larger cities consume American flour, this giant internal organization, the excessive duty, and Russian, Hungarian, and other competition prevent the possibility of any general introduction thereof.

The prospect for American wheat grows continually better. Against its importation there is no prejudice on the part of the mill owners. The residue of the wheat is in demand for domestic animals, and the grinding of it gives employment not only to the mills, but to the many poor people who would go without work if flour were imported instead.

TARIFF.

The present tariff charges on wheat and flour per 100 kilograms (220.46 pounds) are as follows:

Description.	Duty.	
	Francs.	
Wheat grains	7.00	$1.35
Ground wheat:		
Yielding 70 per cent or more of flour	11.00	2.12
Yielding between 70 per cent and 60 per cent of flour	13.50	2.61
Yielding 60 per cent or under of flour	16.00	3.09

There is some talk of a suspension of the 7-franc tariff on wheat, as in 1897. At the request of the wine growers and consumers, the tariff on wine was suppressed this year, the loss being replaced to some extent by other taxes. Considering, however, that the new taxes have not fulfilled expectations, there being a deficit in the budget just now of about 60,000,000 francs ($11,580,000), with a prospect of 100,000,000 francs ($19,300,000) deficit by the time the wine tariff is to be restored, it is not likely that the duty on wheat will be suppressed.

If the present crop amounts to 92,000,000 hectoliters (261,096,000 bushels), which appears probable, it means that 20,000,000 hectoliters (56,760,000 bushels) will be imported. These 20,000,000 hectoliters represent, at the average weight of 77.5 kilograms to the hectoliter, 15,500,000 metric quintals. If the tariff of 7 francs

($1.35) a quintal is suppressed on this amount, it will be a loss of 108,500,000 francs ($20,940,500) of import duty, a greater amount than the probable loss on the suppression of the wine tariff. It is safe to predict that the evil effects of the present deficiency will fall upon the consumers of bread instead of the public treasury.

IMPORTATION.

For the first eleven months of the current wheat year, the statistics just furnished by the customs administration give the total import of wheat at 1,542,476 quintals (5,655,745 bushels), of which all except 84,437 quintals (309,602 bushels) came from Algeria and Tunis. During the corresponding period of the preceding wheat year, the importations amounted to only 705,283 quintals (2,586,038 bushels). The smallness of these figures is due to the fact that the harvests in France for the years 1898 and 1899 yielded each 128,000,000 hectoliters (363,264,000 bushels), which not only furnished sufficient reserve for 1900, but with the supply of Algeria and Tunis left 10,000,000 hectoliters (28,380,000 bushels) as a reserve for this year.

A NEW ASSOCIATION.

There has lately been formed in France an international committee on the price of wheat. It has already received the support of twenty-nine agricultural societies in Denmark, Germany, Spain, France, Austria, Hungary, Portugal, and Switzerland. The object of the association, or committee, is not simply to register after a mechanical fashion the prices quoted in the bourses of different countries, but to obtain influence, little by little, in the ultimate fixing of the market price. Information concerning the details of this organization can be had by addressing M. Paisant, 35 rue Neuve, Versailles.

THORNWELL HAYNES,
Consul.

ROUEN, *September 2, 1901.*

WALL PAPER IN SOUTHERN FRANCE.

The continuation of the building activity in this consular district (Nice) and the tendency to adopt modern methods in the older towns have prompted me to investigate the question of wall paper.

I find that a considerable quantity is imported from England and Germany. Manufacturers in Germany are making strenuous efforts to compete with the English and French papers, and are certainly succeeding, as far as cheap grades are concerned.

The retail price of what I consider ordinary wall paper varies between 4 cents and 90 cents a roll of 8 meters (8.75 yards) in length, while the price of paper in relief varies from 90 cents to about $3 per roll of similar length. I have no samples or catalogues by which to judge, but my impression is that I have seen American papers at home sold at from 40 to 80 cents per "double roll" that appeared to me heavier of weight, richer of appearance, and more artistic of design than papers here sold at from 80 cents to $1.50 per roll.

It is always difficult to ascertain from dealers here what they pay for goods, but I have been enabled to obtain information that would warrant my stating that the profit to the retailer, represented by the prices above quoted, varies between 33⅓ and 60 per cent.

I am informed that the product known as "Incrusta" is not greatly liked, as being not very durable, and the dealers are anxious to find a substitute for it; nor are the British washable papers specially liked here. The handsome wide borders and wainscoting papers are practically unknown, and should become very popular.

English and German papers are shipped here via Bordeaux, and in one case an order required twenty-one days to reach Nice by rail from Bordeaux—more than would be required to ship the goods from New York to Nice direct by sea, at a greatly reduced freight rate.

I have also ascertained that some German firms offer their goods delivered at the warehouse c. i. f., duty, town duty, and all charges paid. This they accomplish by having a special agent on the spot, a system I have often recommended to our own manufacturers.

The duty on wall paper is 10 francs ($1.93) per 100 kilograms (220.46 pounds), and the octroi (town duty) is also 10 francs per 100 kilograms. This last duty is paid by French papers as well as by foreign ones. These duties are for all wall papers, irrespective of quality.

I would recommend the sending of samples and prices to Maison B. Giraud, 33 avenue Beaulieu, Nice, a firm doing a large business exclusively in this line.

ATTILIO PIATTI,
Vice and Acting Consul.

NICE, *August 26, 1901.*

ROUEN EXHIBIT OF FABRICS; AMERICAN VS. FRENCH SILK INDUSTRY.

At the request of the American Silk Association, Consul Haynes, of Rouen, was instructed by the Department of State to report upon the Exposition of Arts for the Decoration of Fabrics, held in that city during the months of July, August, and September, 1901, and under date of August 21 the consul transmitted the desired report.

The reluctance of the president of the exposition to furnish the consul with any information, the absence of printed catalogues, the care with which the exhibits were guarded, the suspicion with which even note taking was regarded, etc., made it impossible for the consul to supply such a report as he would otherwise have prepared; nevertheless, he has collected a mass of technical detail which will be of great interest to the American Silk Association, to the manager of which the full report has been mailed.

Extracts from Consul Haynes' report and the inclosed descriptions are given below:

THE AMERICAN VS. THE FRENCH SILK INDUSTRY.

The silk industry was introduced into France from Italy at the begining of the fourteenth century, when discontented Italian weavers established themselves at Lyons. In the sixteenth century the industry was introduced on an extended scale, and in 1750 France surpassed Italy, and has since kept the position of leader. To-day, however, the success of the United States and other countries in all the finer lines of goods points to a probable crisis for this industry in France. All that has gone to make the United States foremost in other respects--the same causes that for the last three years have operated to place its consumption of raw silk above that of France, and that have enabled it in forty years to increase the production of its own supply from 15 per cent to 85 per cent—will, in all probability, enable it some day to sell silk piece goods, embroideries, and ribbons in Paris, Berlin, and London.

The United States seems destined to gain the supremacy over France in the silk industry, as France obtained it over Italy in the eighteenth century. At that time, it was simply the triumph of newer and brighter ideas, of more perfect means of intercourse, and of greater activity and more daring diversity. When the reeling of the Orient is made to conform to American looms and its raw silk is exported direct, instead of via France, there to be refinished, rebranded, and reexported, it can hardly be doubted that the United States will have advantages to counterbalance those possessed by France—cheap and patient manual labor, artistic taste, and industrial skill. So far, the raw silk going to the United States has been the Frenchman's gain and the American's loss. This extra cost of reshipment and the increase of freight rates by longer routes only defers the day of our supremacy in silk manufacturing.

French manufacturers are already realizing the danger. Some have removed their plants to the United States, to take advantage of our better industrial conditions; the Lyons Chamber of Commerce demands, fruitlessly, free importation of raw material; French journals call attention to the fact that although the United States did not succeed in acclimatizing the manufacture of silk until near the close of the civil war, it is now pressing France for first place.

One of the most significant proofs of this fear is the interest that French industrial societies are trying to arouse, not only in the silk industry, but in all other fabrics. Special attention was paid to such exhibits at the Paris exposition. On the 1st of November next, there will be opened at Nimes an exposition of decorative and industrial art, while at present there is being held in this city (Rouen), the center of the French "indienne," or calico, trade, an exposition of arts for the decoration of fabrics. Evidently the purpose of this exposition by the Rouennaise is not to make a grand display, complimentary to the superiority of their textile fabrics, but to stimulate an activity which will keep pace with foreign competition.

* * * * * * *

PRICE OF ADMISSION.

One of the most singular things about this exposition is the low price of admission—5 cents. I have seen the poorest classes there. No wonder the French workingman can impart to his work an artistic feeling, the result of the study of works of art by generations; the people have learned not only that they are beautiful, but why they are beautiful. It has been a free tuition. This is surely better policy than that of countries wherein the doors of museums, expositions, etc., are closed to those who have not a good price with which to pay entrance fees.

COMPOSITION OF THE EXHIBITS.

Consul Haynes groups the several exhibits under the following categories: Ancient fabrics; Egyptian, Roman, and Byzantine; old embroideries; old brocades, of the times of Louis XIV, XV, and XVI; old oriental velvets; gobelins; modern fabrics. In this connection, the consul makes the following comments:

On entering the modern hall of fabrics, the question at once presents itself: How, in such a little time, have the decorative traditions of such a distinguished art been lost? Here and there one can see the influence of Louis XVI, but the vulgarity of the colors, the overloading of decoration, the abuse of gold embroidery, show what decadence has befallen the Lyons satins, the brocades, the fabrics of Tours, the damasks—few of the pieces offering an artistic interest.

GOODS FOR FRENCH COLONIES.

In one room are exhibits of fabrics for export to Algeria, Tunis, Cambodia, Cochin China, Madagascar, and other French colonies. Instead of being mostly of cotton, as one would naturally expect, they consist, for the greater part, of silk and wool goods, and are finished in the most gorgeous colors possible—bright red, scarlet, sea green, deep violet, blue, indigo, etc. The designs, if they may be called such, consist of straight-line stripes of different colors and widths. In all the collection not one flower or figure is to be seen. The goods for Madagascar, however, consist mostly of cottons—white and red predominating.

TEXTILE PUBLICATIONS AND ASSOCIATIONS.

Consul Haynes gives the following lists of publications and associations devoted wholly to French textile industries:

PUBLICATIONS.

La Filature et le Tissage, 11 rue de Roeroy, Paris; monthly; subscription, 5 francs (96.5 cents); foreign subscriptions, 10 francs ($1.93).

L'Industrie Lainiere, 20 rue Turgot, Paris; weekly; subscription, 18 francs ($3.46); foreign subscription, 20 francs ($3.86).

L'Industrie Textile, 40 bis rue de Donai, Paris; monthly; subscription, 30 francs ($5.79); foreign subscription, 32 francs ($6.18).

Revue de la Teinture, 3 rue de Tresor, Paris; monthly; subscription, 15 francs ($2.89); single number, 1.25 francs (24 cents).

Journal Circulaire du Marche Linier de Lille, 8 Grande Place, Lille; weekly.

Le Bulletin de Laines, 71 Grande Rue, Roubaix; daily; subscription, 30 francs ($5.79).

Bulletin de Moulinage de la Soie, 3 rue Stella, Lyons; bimonthly; subscription, 8 francs ($1.54).

Bulletin de Soies et Soieries, 36–38 passage de l'Hotel-Dieu, Lyons; weekly.

Le Moniteur du Tissage Mechanique des Soieries, 18 rue Neuve, Lyons; monthly; subscription, 10 francs ($1.93).

Le Moniteur des Soies, 31 rue de Bat-d'Argent, Lyons; weekly; subscription, 40 francs ($7.72).

Le Jacquart, rue Th. Chenneviere, Elbeuf; bimonthly; subscription, 15 francs ($2.89); foreign subscription, 20 francs ($3.86).

Les Tissus, 48 rue de Neubourg, Elbeuf; bimonthly.

Revue Hebdomaidaire des Cotons, a la Bourse, Havre; weekly.

ASSOCIATIONS.

Association de la Soierie Lyonnaise, 19 rue Puits-Gaillot, Lyons; founded in 1892; P. Tresca, president, rue du Griffon; J. Rittau, secretary, Grand-Rue des Feuillants.

Union des Marchands de Soie de Lyons, 29 rue Puits-Gaillot, Lyons; founded in 1870.

Syndicat des Negociants en Draperies, Nouveauts, Lainages, Rouennerie, 2 rue de la Poulaillerie, Lyon; founded in 1875.

Chambre Syndicale Lyonnaise des Acheteurs de Soieries pour la France et l'Exportation, 4 rue de la Republique, Lyons; founded in 1897.

Chambre Syndicale de la Fabrique Française de Lacets, 24 rue de la Republique, St. Chamond (Loire); founded in 1873.

Association des Fabricants des Tissus Elastiques de St. Etienne, St. Chamond et Lyon; 10 rue Brossard, St. Etienne.

Chambre Syndicale des Fabricants des Tulles et Deutells, 17 boulevard Jacquard, Calais; founded in 1883.

Association de la Fabrique Lyonnaise, 7 rue de la Republique, Lyons; founded in 1868.

INHERITANCE TAXATION IN FRANCE.

Having lately received several inquiries regarding taxes on heritages and legacies in France, I submit a report on the subject.

Death duties existed in France before the period of the first revolution, under the name of the "Centième Denier," but the fundamental law by which they were established in modern times dates from the 22d Frimaire, in the Year VII of the First Republic.

No important modification was made until the recent law of February 25, 1901, although the amount of duty and the method of assessment have varied somewhat.

For the first time, by the law of February 25, 1901, the deduction is allowed of debts for which the deceased was liable at the time of his death, which are capable of proof by documents that can be admitted as evidence in courts of law. In the case of commercial debts, the production of commercial books may be required.

The following debts, however, may not be deducted:

(*a*) Debts which fall due more than three months before the decease, unless they are proved by an attestation made by the creditor (fines are imposed in case of false attestation).

(*b*) Debts recognized by the deceased in favor of his heirs or a trustee (personne interposée).

(*c*) Mortgage debts proscribed by lapse of record (*i. e.*, a record which has not been renewed within the prescribed period).

(*d*) Debts acknowledged by will.

(*e*) Debts resulting from documents of title executed or judgments rendered abroad.

(*f*) Debts statute barred.

There is no exemption for heirs.

As to religious, educational, and benevolent institutions, legacies to charities formerly carried the highest duty, viz, 9 per cent with the "décimes"—total, 11¼ per cent—but they are now treated somewhat more favorably, as they only pay 9 per cent without "décimes," while ordinary legacies between strangers now carry a much higher duty. The institutions which benefit by this slight exemption are the "départements," "communes," benevolent works, or "Oeuvres d'Assistance," public charitable establishments, hospitals, friendly societies, and all other societies having for their object free instruction and popular education.

In 1899, the tax produced the amount of 198,900,000 francs ($38,387,700). These are the last official figures published.

The proportion that this tax bears to the total income from taxation is:

	Francs.
Inheritance tax for year 1899	198, 900, 000=$38, 387, 700
Total income from taxes, 1899	2, 833, 400, 000=546, 846, 200

There is a steady increase of receipts derived from this tax, as will be seen from the following table:

Year.	Amount.	
	Francs.	
1830	25,600,000	$4,940,800
1851	49,500,000	9,553,500
1875	136,700,000	26,383,100
1885	166,500,000	32,134,500
1897	186,000,000	35,898,000
1898	190,300,000	36,727,900
1899	198,900,000	38,387,700

The rates are permanent and can be changed only by law. They can not be altered in any way to meet the fiscal demands of the Government. The proceeds of the tax are comprised in the general budget of the State. No part of the income from the inheritance tax is applied to municipal or local purposes.

By the law of February 25, 1901, the tax is assessed against net individual shares. There is no distinction now in regard to the kind of property.

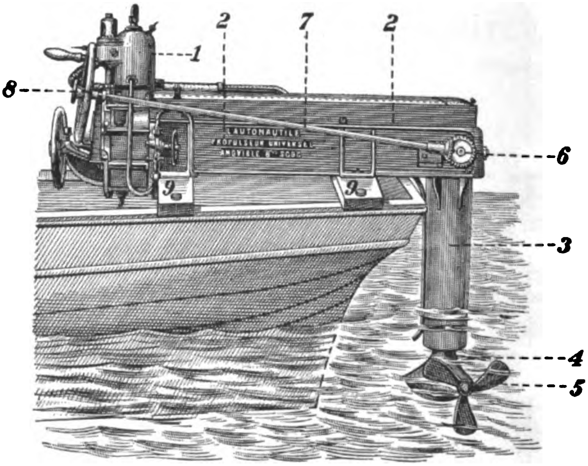
John K. Gowdy,
Consul-General.

Paris, *July 25, 1901.*

NEW METHOD OF PROPELLING SMALL VESSELS.

A newly patented device for applying motive power to small craft has recently appeared in France. As the invention has the merits of simplicity and effectiveness, of being easily installed in almost any kind of small boat, and of dispensing with the use of an ordinary rudder, a description may be of interest to American boat builders, owners of pleasure craft, and others. It is called the "Propulseur Universel Amovible," and is manufactured by the "Société du Propulseur Universel Amovible," at Neuilly sur Seine, in the Department of Seine, France. This company is the owner of the patents by which the invention is covered in all the principal countries of the world.

Detailed drawings of the apparatus are not available, but the following cut will indicate its general appearance:



The "Propulseur Universel" consists of four parts—the motor (1), a steel horizontal frame (2), a vertical arm (3), and a screw box and screw (4, 5), movable around a vertical axis. It can be taken apart in three pieces, for transportation or storage: First, the motor itself; second, the horizontal frame and motor attachments; and, third, the vertical arm with the screw box and screw. The motor can be of almost any type—naphtha, steam, or electricity. The one generally used by the French company is the De Dion naphtha motor, with water circulation and a special carburetor with absorbing diaphragm.

The motor acts directly on a shaft passing through the horizontal frame (2), which in turn, by a system of gearing, transmits the power to a vertical shaft passing through the vertical arm (3) and communicating to the screw the rotary movement necessary for the propulsion of the boat. Independently of the rotary motion, the screw is capable of a gyratory movement, which permits it to be used to give direction to the boat, instead of a rudder. To obtain this motion, the screw is attached to the screw box (4), which is kept in position at the lower extremity of the vertical arm (3) by a movable tube passing through the arm, the upper portion of the tube ending in a pinion (6) controlled by a shaft (7) passing outside of the horizontal frame (2), to which the steering wheel (8) is attached. By operating the steering wheel, the screw can be turned horizontally through 360° without interrupting its movement of rotation or changing the speed of the motor. To go astern, it is only necessary, by means of the steering wheel, to make a half revolution of the screw box, without reversing the motor. If the screw box is placed perpendicularly to the direction in which the boat is moving, the latter can be made to turn in its own length. A stop is adjusted to the steering wheel, by which the latter can be clamped, and the boat will run on its own course alone without the aid of the helmsman. If the steering wheel is left free, the action of the water on the blades of the screw will cause the screw box to turn so that the propelling action of the screw ceases, and the boat will come to a standstill.

The gyratory movement of the screw box through the entire arc of a circle is essentially the most interesting feature of the new system, and is one in which it differs from other devices for transforming small boats into power-propelled crafts. In the latter, the screw and rudder can only be moved horizontally through 180° of a circle. The boat, under full speed, can be stopped almost instantly by placing the screw in an opposite position by a single turn of the steering wheel. The parts of the new device are interchangeable, and the gears all work in oil.

The method of installing the apparatus on any kind of a boat is very simple, not requiring any special preparation. It is bolted on two flexible wood planks (9), which are secured to the gunwales, so that it will be perpendicular to the axis of the boat. The flexibility of the planks takes up the vibration, so that even in light boats the hull is not liable to be damaged.

The apparatus measures from 49¼ inches to 51⅛ inches long and 10¼ inches wide. The company keeps in stock motors of five different horsepowers, 1¾, 3½, 4½, 6, and 8; but larger motors of 12, 16, and 24 horsepower can be made to order. The following are the prices at the factory, weights, speed, and consumption of the different motors:

Horsepower.	Weight complete.	Speed per hour.	Consumption of naphtha per hour.	Price.
	Pounds.	*Miles.*	*Quarts.*	
1¾	144	7½	0.528	$347.40
3½	198½	8	1.27	617.60
4½	220½	8	1.585	694.80
6	260	(*)	2.378	887.80
†8½	282½	(*)	3.17	1,080.80

* Speed depends upon the class of boat and draft of water.
† The 8½ horsepower has two cylinders.

I have been informed that the French naval authorities have made favorable reports on the use of the "Propulseur Amovible" for whaleboats and other service boats for men-of-war, and are at present experimenting on motors of large horsepower.

Mr. P. Ducassou, the manager of the company, writes that the Governments of Italy, Germany, Norway, Austria, Great Britain, Portugal, Spain, and Japan are also making tests of the new motor.

A. M. THACKARA,
Consul.

HAVRE, *August 7, 1901.*

SELF-PROPELLED VEHICLES IN EUROPE.

WAR AUTOS.

Apropos of a recent report from this office on automobiles,* it seems that self-propelled vehicles are to play an important part in European warfare. The bicycle has already come to be a fixture in the French army. Twenty cyclist companies are to be formed next year. The machine upon which they are to be mounted is the invention of the captain, who this year organized the first company of the kind. It can be folded and placed on the back, much after the foot soldier's knapsack, as it weighs only 36 pounds.

---

*ADVANCE SHEETS No. 1095 (July 24, 1901).

Not long since, the automobile owners in France received a circular from the artillery station at Vincennes regarding the conditions upon which automobiles could be bought, should mobilization become necessary. The Minister of War in Germany is having vehicles constructed with tables upon which officers can consult their maps while on the march, and also as ambulances, and to carry guns, ammunition, etc. In the recent German military movements, automobiles, motocycles, and bicycles entirely replaced horses in the service of the general staff. To obviate expense and delay in special construction of railroads for campaign purposes, the Ministers of War of Austria-Hungary and of Italy are having automobiles built solely for rapid mobilization. The latter has offered prizes for types fulfilling certain conditions. The Secretary of State for War in England has offered prizes amounting to more than $4,000 for the best self-propelled lorry, or wagon, for military purposes.*

ELECTRIC MOTORS.

The great objection to electric motors—that they will not run far enough without recharging—is said to be overcome. It is recorded that recently in England a circuit of 94 miles was run without recharging. It was done with a battery of 42 four-plate cells, with a capacity of 180 ampère hours. The carriage was a four-wheel dog-cart, with two motors of 2½ horsepower each. The secret of the battery which enabled it to make such a record was that in going down grade the motors were reversed, thus making dynamos for charging the accumulators. In this way the current was not only saved, but a new current actually generated, rendering the battery stronger at the bottom of the grade than it was at the top. Might not the wasted energy of the automobile as it flies down American hills be utilized?

AUTOMOBILE EXPOSITIONS.

The Fourth International Automobile, Cycle, and Sports Exposition is to be held in the Grand Palais, Paris, December 10 to 25, 1901. The condition of entry is generally the same as was in force during the last exposition, with the exception that the price of space, which remains the same in the nave of the building, will be diminished in the less-favored localities. There will be the following classification:

Automobiles, motocycles, and all vehicles of mechanical traction, cycles of all kinds, material for the construction of automobiles and cycles, tires, detached pieces, accessories, motors, navigation, aërostatics, miscellaneous sports and touring, body work for automobiles, automobile and cycle costumes, inventions, automobile and cycle literature, and photography.

---

*See Advance Sheets No. 1067 (June 20); Consular Reports No. 251 (August, 1901).

The president of the committee of organization is M. Gustave Rives. Letters will reach him addressed in care of the Automobile Club of France, Hotel Plessis-Belliere, 6 place de la Concorde, Paris.

The Holland Industrial Cycle and Automobile Association has organized an international exposition for the month of February, 1902. It will be held at Amsterdam.

THORNWELL HAYNES,
Consul.

ROUEN, *August 8, 1901.*

CHAMBERS OF COMMERCE IN FOREIGN COUNTRIES.

The first chamber of commerce founded by one country within the limits of another was in 1870, when Austria established such an institution at Constantinople. At first, this chamber of commerce served the interests of Austria-Hungary politically as well as commercially; to-day, however, it has no claims to a political organization. The Home Government has always taken an interest in its welfare, and a yearly subsidy is voted by the Reichsrath. The success of the chamber at Constantinople soon led to the establishment of others. In order to hold their own against the competition of England, France, and Germany in the Orient, the merchants of Trieste started a movement which led to the establishment of an Austrian chamber of commerce at Alexandria. This institution gave the merchants of Trieste not only a point of vantage in Egypt, but an observation station as well on the main highway to the Far East. A Government subsidy was soon obtained, and other chambers of commerce were established in Paris and London.

In 1872, Great Britain established a chamber of commerce in Paris. This is one of the best-organized chambers in existence, and has served as a model for many others. The most important English firms located in Paris and throughout France are included in its membership. It has rendered important service in establishing satisfactory commercial treaties between France and England, and is in touch with the English importer in Paris and the French custom-house. The merchant in London receives from it all kinds of information in regard to the French market and the French consumer. It enjoys a very high standing in both countries, and the Governments look upon it with respect and favor, which can be attributed only to its excellent arrangements. The organization has no official or political character whatever, having been founded entirely through private initiative.

With the exception of the Anglo-American Chamber of Commerce in Brussels, Great Britain has, to my knowledge, no other similar organization on the Continent. She has, however, more than thirty chambers of commerce or boards of trade in her own colonies in every part of the world, all of which belong to, or are members of, the United Chambers of Commerce of the Empire.

The following is a list of the locations of the most important commercial institutions fostered by English and colonial merchants:

Aden.
Bombay.
Buluwayo.
Cape Town.
Colombo.
Constantinople.
East London.
Freemantle.
Georgetown.
Grahamstown.
Port Alfred.
Hobart.
Hongkong.
Kingston.
Madras.
Malta.
Montreal.
Port Elizabeth.
Port Louis.
Singapore.
Sydney.
Toronto.
Trinidad.
Vancouver.

France has more than thirty chambers of commerce in foreign countries, all of which may be said to have been founded by home chambers. The yearly subvention budget of the French Government to-day includes $19,300 for the purpose of helping these useful organizations in—

Barcelona.
Charleroi.
Brussels.
Lima.
London.
Constantinople.
Mexico.
Alexandria.
Valparaiso.
Port Louis.
Galatz.
Liverpool.
Milan.
Montevideo.
New Orleans.
Rio de Janeiro.
Rosario.
Caracas.
Habana.
Montreal.
Shanghai.
Port Said.
Athens.
Lisbon.
The Hague.
Amsterdam.
Rotterdam.
Valencia.

These institutions are placed on an equality with the home chambers, with which they maintain regular intercourse. They give information concerning the credit standing of business houses; appoint, when requested, reliable agents; search out new markets; and collect samples of every description for manufacturers at home. The French consuls-general or consuls in the above-mentioned cities act as honorary presidents.

The Italian Government has always looked favorably upon the founding of chambers of commerce in foreign countries. In 1894, the annual subsidy for this purpose amounted to $31,845. Of this sum, $3,128 went to the support of the chamber in Paris and $2,702 to the one in London. I am not in possession of a complete list of

Italian chambers of commerce in foreign countries, but the following are the locations of some of the most important:

Paris.
London.
Constantinople.
Tunis.
Alexandria.
New York.
San Francisco.
Buenos Ayres.
Montevideo.
Rosario.

The Italian chambers do not possess the same character as those of France, for the reason that they are more directly under the supervision of the Minister of Commerce and Industry, who acts as a medium between them and the Government in questions respecting subsidies.

According to German press reports, Spain, Greece, and Turkey are considering plans for establishing similar organizations in the most important commercial cities abroad. Belgium has a chamber of commerce in Paris, which issues monthly bulletins pertaining to all matters of commerce and industry.

Germany has a chamber of commerce in Brussels, and, according to recent reports, one will shortly be established at Bucharest, in Roumania. The German merchants of that locality will form the nucleus, receiving assistance from interested firms at home. This chamber will issue reports on the commercial and industrial outlook, not only in Roumania, but in the entire Levant. It will serve as a link to connect German business men in that part of the world with manufacturers and merchants at home. Last fall, the subject of establishing German chambers of commerce in foreign countries was discussed in the Reichstag, but without result. The question is being continually agitated by different commercial bodies in this Empire, and press reports are altogether favorable to the plan in general. As far back as 1888, the Chamber of Commerce of Mannheim sent a memorial on the subject to the Imperial Minister of the Interior, setting forth that, in the opinion of that body, nothing could be more instrumental in furthering the interests of Germany's foreign commerce than the establishment of such institutions abroad. No less than forty-eight German chambers of commerce at once set their signatures to the Mannheim petition. It must be borne in mind that these bodies in Germany, unlike those in England and America, receive State aid, and in the movement to found similar institutions in foreign countries it is taken for granted that they will be organized like those of France or Italy and subsidized by the Government. This pecuniary point, at a time when the nation is confronted by new tariff plans for raising revenue, together with the disbursements created by the recent naval appropriations and the general industrial depression all over the Empire, will probably prevent any definite steps being taken in the matter for years to come. In the meantime, German merchants located in foreign business centers are likely to take the matter in hand and follow the lead of England and America, organizing chambers of commerce through private enterprise, which will have no connection whatever with the Home Government.

The German Chamber of Commerce in Brussels has accomplished much for the commercial interests of the Empire. In 1895, one year after its foundation, this chamber made its influence felt during the introduction and passage of the Belgian tariff law of that year. In addition to the general duties of such an organization, it takes an active interest in the complaints of German merchants located in Belgium, and advocates their interests before the proper authorities.

The United States has thus far three chambers of commerce abroad, namely, in Paris, Brussels, and Manila. The chamber in Paris (No. 3, rue Scribe) was founded in 1896 by American merchants resident in that city. In 1900, it had 201 paid-up memberships, of which 145 were American and 56 foreign. Its finances are well organized, and a fund has been established which, in time, will be devoted to the construction of a permanent home for the institution. The chamber has for its object "to examine questions concerning the commercial and industrial relations between the United States and France; to protect the mercantile interests subsisting between individuals and firms in the two aforesaid countries; and to take all measures which may facilitate and protect the transactions of business between them." The annual membership dues are 100 francs ($19.30). In its reading room are found all the leading American trade papers, while the library consists of over 700 well-chosen volumes relating to commerce and industry.

The Anglo-American Chamber in Brussels (29 boulevard Anspach) was established in 1898 by English and American business men located in that city and in Antwerp, for the purpose of "promoting measures calculated to benefit, protect, and forward the mercantile and trading interests of its members in Belgium; to represent and express their sentiments on commercial affairs; to collect statistics bearing upon the trade and manufactures of Great Britain and the United States of America; to establish a commercial library and a museum of samples in Brussels; to attain such other objects of general commercial advantage as the exertions of individuals may be less able to accomplish; to do all such other things as are incidental or conducive to the attainment of the above objects, or any of them." It is a flourishing institution, with over 200 members.

The best argument in favor of founding American chambers of commerce in foreign countries is the success which is attending the efforts of those already in existence. The importance of this subject in general is such that I would recommend it to the careful consideration of our chambers of commerce, manufacturers, and merchants who are interested in the export of American products to every part of the world. These useful institutions, established in emporiums of trade such as London, Moscow, Yokohama, Shanghai, Sydney, Cape Town, Buenos Ayres, and some good city in the German Empire, would be strategic points of immense advantage in furthering the expansion of American commerce.

ERNEST L. HARRIS,
Consular Agent.

EIBENSTOCK, *August 12, 1901.*

AMERICAN COAL FOR SWITZERLAND.

The "central office for the preparation of commercial treaties" at Berlin has in a recent circular pointed out as an especially significant sign of the times the fact that elaborate preparations are now in progress for the permanent supply of American coal to northern France and Switzerland. "Already," says the memorial, "the American exporters during the coal famine of last year sent a quantity of coal to Switzerland by the water route via Rotterdam, Mannheim, and Strassburg. But the long distance and the several transshipments caused so much disintegration that it could not finally be used as lump coal for steam purposes." The present plan includes the creation in a port of northern France of an immense receiving station or depot, equipped with modern American machinery, for unloading, screening, and grading coal, and for making briquettes from the refuse dust and slack. For the Swiss trade, the French railways have granted a special freight rate of 12 francs ($2.316) per ton, and with this concession it is expected that the American coal will be able to undersell and replace the supply which Switzerland has hitherto drawn almost exclusively from Germany. If all this is true, as announced, there may be an opportunity for an important trade. The imports of German fuel into Switzerland in 1900 were as follows: Coke, 126,210 tons; coal, 1,145,418 tons; briquettes, 307,813 tons; total, 1,579,441 tons.

FRANK H. MASON,
Consul-General.

BERLIN, *August 9, 1901.*

SUGAR INDUSTRY IN ITALY.

There seems to be no longer any doubt that Italy will, within a few years, turn from a sugar-importing to a sugar-exporting country. The past two seasons have witnessed a remarkable development of her beet-sugar industry. Previous to 1899, there were in the entire Kingdom only four sugar factories, with a total annual capacity of about 8,000 tons. During the season of 1899–1900, the number of factories increased to twenty-four, and the production of sugar quadrupled. At the end of the year 1900, there existed twenty-eight raw-sugar factories and ten refineries, while six factories and two refineries were in course of construction. The industry continued to develop during the season just closed, but such strides as had been generally anticipated were not made. This was chiefly due to the imposition of a new sugar tax—which in a measure checked the spirit of enterprise—as well as to the fact that the beet crop was both meager in quantity and indifferent in quality.

Official data as to the yield of the season of 1900–1901 are not yet accessible, but, according to the opinion of those best able to judge, the amount of raw sugar manufactured will reach 550,000 quintals (55,000 tons). This is more than half of the total quantity annually consumed in the Kingdom.

The following table shows the production, importation, and consumption of sugar in Italy during the quinquennium 1895–1899:

Year.	Production.	Importation.	Total consumption.
	Metric tons.	*Metric tons.*	*Metric tons.*
1895–96	3,530	78,510	77,040
1896–97	3,060	74,180	77,240
1897–98	5,160	74,2[illegible]0	79,370
1898–99	7,960	75,330	83,300
1899–1900	30,820	58,440	89,260

Conservative manufacturers now promise for the ensuing campaign a production of 65,000 tons, and affirm that within four or five years Italy will produce sufficient sugar to supply her own demand.

The home product pays a consumption tax of 67.20 lire paper per quintal, or 5.55 cents per pound. The duty laid on imported raw sugar is 88 lire gold ($16.98). As gold, however, commands a premium of 6 per cent, this is equal to 93.28 lire paper. The advantage, therefore, which the home manufacturer has over his foreign competitor in the way of taxation amounts to 26 lire ($4.68) per quintal (220.46 pounds), and this alone gives him practically a monopoly of the sugar trade. But this is not the only favor he receives at the hands of the State. He need not pay the sugar tax in cash, but may in lieu thereof give to the State a note payable six months from date, without interest; and his products, as well as the raw beets, enjoy reduced freight rates on all the railways of the peninsula.

In spite of the protection thus given to the home industry, the Italian manufacturers demand that the duty upon the imported article be still further increased. It is not likely that the Government will make an attempt to change its sugar tariff before the expiration of the present treaties. Should it, however, in the negotiation of the new treaties and the incident revision of the customs laws, respect the wishes of the beet and sugar producing interests, and increase the duty on the imported article, there is every reason to believe that within a quinquennium Italy would be seeking a foreign market for her surplus sugar.

FREDK. W. HOSSFELD,
TRIESTE, *September 6, 1901.* *Consul.*

CHEAP LODGING HOUSE IN MILAN.

A hotel or lodging house, after the style of the well-known Rowton houses, of London, has been built and opened at Milan. The expense has been provided by a society formed expressly to furnish the necessary capital by means of donations. It was decided by the society to establish something in Italy on the order of the houses in London, but with such changes as the ground, place, and means would allow.

The hotel (located at the corner of Via Marca d'Oggione and Via Vallone) was opened June 18, and is now in working order. It was at first thought that the majority of the frequenters would be of the working class, but experience so far shows that almost the entire custom is composed of the poorer-paid clerks, shop assistants, and others of that class. It is restricted to males. The cost of admission is 50 centimes (about 9½ cents) per day, with an extra charge of 10 centimes (1.93 cents) for bed linen; but, on the other hand, lodging for a week costs 3.50 lire (about 67½ cents), without the extra charge for linen. Everyone must be in his room before midnight and out in the morning not later than 9 o'clock. Access to the bedrooms can only be had from 7 p. m. until midnight. Smoking is not permitted in the bedrooms, and the use of the electric lights is allowed only for dressing and undressing. No objects can be left in these rooms, separate closets being provided for personal clothing, while trunks, etc., are given room in the store closets.

The bathrooms are open night and day for the use of the inmates—a complete bath costing 20 centimes (3.86 cents), while a shower bath may be taken for 10 centimes (1.93 cents). Food may be bought outside and cooked in the kitchens of the hotel, or it may be bought in the hotel at the cheapest possible price. Everyone may do his own washing or have it done for him in the hotel at a fixed tariff.

The building is of five stories, not counting the basement and underground, while the roof forms a very extensive terrace. The architecture is extremely simple, but in good taste. The ground floor is raised about 5 feet above the level of the road, the main entrance to the hotel being on this floor and an elevator serving to carry the inmates to the upper stories. From the atrium, there are stairways leading to the upper stories and to the large rooms, which are reserved for dining, reading, and smoking. The dining room is the largest, best furnished and finished room in the hotel. It is of ample height, being from floor to ceiling 13 feet; it has wooden floors, and the walls are tiled to the height of 4 feet 10 inches, and are painted in imitation of wood. The room is lighted by electricity. To this room are joined two kitchens, with heat always ready (known by the name of "economical kitchens"), and, as stated above, each lodger can buy his provisions outside and use these kitchens, the hotel providing the necessary utensils and salt. There is a place to wash the meat, etc., before cooking, and to wash the kitchen utensils after using, all these places being supplied with running water.

The smoking room is also well painted and enameled, and has a wooden floor. The only difference between this floor and that of the reading room is that the latter is covered with linoleum. Near by is a large room which serves as a wardrobe for the whole hotel. Each lodger has a separate wooden clothes closet, of which he holds the key.

The water-closets are numerous and well arranged, being located on each floor. On the underground floor, near to the bathrooms, are the washing stands, which are of marble slabs or tables, on which are fixed the basins. Each basin has a hot and cold water tap; also a discharge pipe underneath. There is also an arrangement for footbaths, each provided with hot and cold water. The baths and shower baths, for which a charge is made, as above stated, are as near perfection as the necessary economy would permit. The laundry, which is underground, is extremely practical and commodious.

There are 530 rooms (or so-called cells) in all. They are all of the same dimension, viz, 5 feet 10 inches by 7 feet 6 inches. The height of the divisions between cells and corridor is 7 feet 10 inches, while the height from main floor to ceiling is 9 feet 10 inches. Each room has a window, measuring 4 feet 11 inches by 1 foot 9 inches. The furniture consists of a bed, chair, and clothes pegs; there is an electric light, to be used for the short time mentioned. The floors of these rooms, as well as of the corridors and the washing rooms, are laid in cement, and all the partitions are of hollow, cemented bricks, enameled as in the other walls of the building. The whole edifice is heated by means of hot-water pipes.

WM. JARVIS,
Consul.

MILAN, *July 18, 1901.*

REFRIGERATORS IN MALTA.

Malta should prove a good market for American refrigerators and ice chests. The few in use here are of the most primitive type. As a rule, they are merely oblong chests, lined with zinc; but even these bring good prices. I believe that the attractive, practical American article would meet with a ready sale, if properly introduced. The three ice factories here could supply all the necessary ice. I do not believe there would be much demand for high-grade goods; the call would be rather for refrigerators which could be placed upon the market at, say, $15 or less. The few in use here are principally of English manufacture, brought from England by private parties. They are not on sale at the local stores. Malta has direct steamship communication with New York. The Valletta firms most likely to be interested in the introduction of refrigerators are: C. Breed Eynaud & Co., Robert Balbi & Co., M. A. Crockford & Son, Mortimer & Co., Dalzel & Gingel, Bugeja & Micallef, C. V. Galea & Sons, S. Anastasi & Sons, Emanuele Anastasi, P. Galea & Sons, Francis Balbi, and the Petrolea Bazaar. I would advise that catalogues, printed in English, be forwarded to them at once, together with the lowest export prices.

JOHN H. GROUT,
Consul.

VALLETTA, MALTA, *July 25, 1901.*

HORSE MEAT IN VIENNA.

The comparatively high prices obtaining in Vienna for beef, mutton, and pork put these meats beyond the daily reach of the poorer classes, who are most taxed by hard labor and are obviously in need of strength-giving food. Nearly half a century ago, the experiment of putting horse meat on the market was made for the first time in Austria. A governmental decree of April 20, 1854, gave legal permission to cut up and sell horse meat as an article of food. During the rest of that year and in 1855, 943 horses were slaughtered for food in Vienna; the number rose in 1899—the last year for which statistics are obtainable—to 25,640 head. The statistics of the number of horses and donkeys slaughtered for food in Vienna during the five years from 1895 to 1899, inclusive, and of the receipts and expenses for their slaughter, are as follows:

Year.	Animals slaughtered.		Abattoir receipts and expenses.	
	Horses.	Donkeys.	Receipts.	Expenses.
1895	21,095	71	$2,800.28	$1,166.82
1896	21,930	82	3,147.60	1,078.96
1897	22,684	66	3,352.17	824.73
1898	24,099	44	....	....
1899	25,646	58	....	....

The price of horse meat ranges, per pound of fore quarter, from 5 to 8 cents; hind quarter, 6 to 9 cents; choice cuts for steak and roast, from 5 to 11 cents; the same cuts in beef averaging from 20 to 24 cents a pound. The horse meat is also worked up into sausages, and as such sells at correspondingly low prices. The horse-meat butcher shops, of which there are now no less than 185 in this city, present a clean and attractive appearance, and are in no way distinguishable from the shops where the usual kinds of meat are sold, save by the sign announcing their specialty. Restaurant keepers who serve horse meat must designate this fact in a special column on the bill of fare offered to patrons.

The regulations as to the proper condition of the horses slaughtered are very stringent and carefully enforced. The special inspectors appointed are, in the main, veterinary surgeons, and those intrusted with the microscopical examination of the meat must be able to show a certificate of having graduated from a course of study in this line at a veterinary or similar institution, and are sworn to the faithful performance of their duties.

The horses to be slaughtered are inspected both before and after slaughtering. The many diseases of which the symptoms are easily overlooked in the living animal are readily recognized by the experts after the animals have been slaughtered. The inspection of the living animals must be as complete as possible, and the inspector is given the opportunity of observing them closely in and out of the stall. The inspector, notified twenty-four hours previously, must be present at the slaughtering, which should take place by daylight. If the slightest trace of tubercles or ulcers be found on the nasal mucous membrane, or any disease of the glands of the throat, the meat of the animal is forbidden for use as food and due report is made immediately to the proper local authorities.

In the shops where the horse meat is sold, a certificate of inspection must lie open for all to read. As in other butcher shops, the prices of the various cuts per kilogram must be stated on a signboard. In some of these shops donkey meat is also offered for sale, and this fact must be announced in a similar manner.

CARL BAILEY HURST,
VIENNA, *August 16, 1901.* *Consul-General.*

MEDICAL AND CHEMICAL PREPARATIONS IN HUNGARY.

I. Medical preparations, under the patent law of Hungary (law of 1895), can not be patented here, but the process of their preparation may be patented; trade-marks may also be registered.

By the public-health law of the year 1876, the sale of drugs in Hungary proper was confined exclusively to diplomaed druggists, and the Minister of the Interior in Budapest was empowered to fix the price of drugs from time to time. But a year before, the minister caused drugs to be classified into four classes, and excepted from the prohibition binding upon nondruggists those merchants who dealt in drugs wholesale, by allowing them to sell in certain minimum quantities and over. In 1878, the second issue of the Austro-Hungarian common tariff contained a provision on the basis of which the Minister of Finance forbade the import of medical preparations by anybody but a druggist, without the license of the local district physician. In 1882, the Minister of the Interior excepted from this provision drug dealers and wholesale merchants who had registered their firms and the articles sold by them with the local authorities, but limited the sale of such imported preparations in wholesale delivery to druggists. The minister forbade, however, the sale of all secret preparations both to merchants and to others without his special license, excepting only "foods" and "drugs and preparations which are permitted to be kept and sold in a state observing reciprocity with Austria-Hungary, or which have been proved harmless after expert examination." Notwithstanding these measures, the sale of secret preparations was carried on so deftly that in 1884 the Minister of the Interior issued a fresh ordinance. In the same year, the Minister of Finance informed the custom-houses that foreign medical preparations could no longer be imported by private persons, except by license from the Minister of the Interior, showing that the same were prescribed by a physician.

In 1893, this order to the custom-houses was so modified that public hospitals and sanatoriums were permitted to import freely, whenever it was shown that the import was for their uses only.

II. Chemical preparations (apart from gunpowder, which forms a monopoly of the Hungarian Government) can be freely imported, with the following exceptions, mentioned in the customs-administrative ordinance of the Minister of Finance, issued in 1882:

White face paint may be imported only with special license of local authority where consignee resides.

Caprine; under special conditions only.

Explosives and inflammables, under the existing regulations as to safety—collodium cotton up to 1 kilogram (2.2046 pounds) net, with license of local authorities.

Any other substances concerning which special orders may be issued, *e. g.*—liquors, foods, and other objects injurious to the public health.

III. In the case of both medical and chemical preparations, secrecy can hardly be observed when such full power to examine and prohibit is given as in Hungary. The object of all the regulations above referred to is simply to protect Hungarian physicians, druggists, and chemists, as well as the public health. Many foreign medical preparations have been sold in Hungary in the past, but only furtively and by certain persons having what may be called the "high-class" trade in pharmacy and chemistry, including retail supply to foreigners sojourning in Hungary. The moment, however, that the foreign maker insisted on widely advertising his article, not content with its quiet sale by influential druggists, such article immediately became subject to seizure, examination, and prohibition. For example, the Minister of the Interior has just publicly prohibited the import and sale of Dr. Williams' pink pills.

The customs regulations issued by the Minister of Finance are in force in Croatia-Slavonia, as well as in Hungary proper. The regulations of the Minister of Interior apply only to Hungary proper, but similar orders are issued by the provincial government of Croatia-Slavonia for that automonous district.

Makers of remedies protected in the United States may apply to this consulate for advice as to consignments which they may wish to make to druggists in Hungary. Dealers of chemicals, etc., in wholesale may likewise apply to this consulate for lists of merchants registered as drug dealers.

FRANK DYER CHESTER,
Consul.

BUDAPEST, *July 21, 1901.*

INDIAN CORN IN BELGIUM.

Since the United States raises, according to the Department of Agriculture, more than three-fourths of the indian-corn crop of the world, it should be a matter of interest to the millions of persons so closely connected with its production to know what becomes of a large portion of it, and to learn of its possibilities.

In 1891, the United States exported 30,768,213 bushels of corn, of which 23,533,277 bushels was taken by Europe; while in 1900 we exported 209,348,273 bushels, of which Europe took 192,519,785 bushels. This wonderful increase in exports was partly the outgrowth of the corn propaganda inaugurated by Col. Charles J. Murphy in 1888, as special commissioner of the Department of Agriculture, and since so ably supplemented by individual enterprise.

Belgium, from the first, showed the greatest interest in the investigation of the value of corn as human food, and offered all possible inducements, and even to this day corn enters Belgium free of duty, while France imposes 15 cents per bushel thereon and Germany proposes to increase its already high duty. Belgium is so densely populated—there being more than 600 persons to the square mile, or about one to the acre—that it is utterly impossible to produce within its borders much more than one-half the necessary food supply. During 1900, there were consumed in this country 20,691,147 bushels of corn, of which the United States furnished 11,561,456 bushels and the Argentine Republic 3,792,548 bushels. During the same time, 40,591,955 bushels of wheat were imported, of which the United States supplied 8,247,905 bushels and the Argentine Republic 11,113,396 bushels. When it is understood that no corn is raised in this country, while large quantities of wheat and other cereals are grown, it will be seen there is a great opening here for corn.

Of the 192,519,785 bushels of corn exported from the United States to Europe in 1900, it will be seen that the 6,815,054 inhabitants of Belgium consumed 11,561,456 bushels, or about 2 bushels per head, against 180,958,329 bushels for the other 360,000,000 inhabitants of Europe, or only about half a bushel per head.

It will be noted that the United States furnishes Belgium only a little more than one-half of the corn consumed. During the last five years, however, the consumption of corn in this country has only a little more than doubled, while our portion has increased from 2,700,000 bushels in 1895 to 11,561,456 bushels in 1900. This speaks volumes for our energy and for the fine quality of our corn, which is recognized as the best.

The uses to which corn is put in this country are constantly on the increase. Most of the bread consumed by the laboring classes contains 15 per cent to 20 per cent of corn meal. One bakery company in this city informs me that during 1900 it put 112,200 pounds of white-corn meal in its bread, and this is only one of the 276 bakeries in Liege. The importance of such general use of corn by the bakers will be better understood when it is known that more than nine-tenths of the bread consumed in Belgium is made by them. It is of a very good quality and is sold cheaper than most baker's bread in the United States. One bakery in this city makes on an average, I am informed, 10,000 loaves per week of what is known as "Pain Murphy," or Murphy bread, which contains more than 25 per cent of white-corn meal. It getsits name from Col. Charles J. Murphy, late commissioner of the Department of Agriculture.

Corn is also very extensively used by the 3,000 brewers and distillers of this country, and with great profit. In some cases, as high as 70 per cent of corn meal is used with the malt in making beer.

There are now in operation in this country eleven extensive mills where corn meal is ground. One mill at Alost, I am informed by the proprietors, has a capacity of 17,000,000 pounds per year. It is said that all the mills are crowded at present.

In view of the shortage of the cereal crop in Europe this year, there should be a great effort to extend the corn propaganda. The 300,000,000-bushel mark for Europe should be reached in 1902, and a market found for 25,000,000 bushels in this intensely industrial country. Belgium at present furnishes an exceptionally good field, because of the industrial crisis it is passing through, which necessitates economy on the part of the laboring classes.

Cooking schools should be held in the large manufacturing centers of the Continent for several months at a time, where free instructions could be given the working classes in the preparation of this most nutritious of foods, and where samples of the cooked articles could be freely distributed, in order to cultivate a taste for it. A large proportion of the common people of Europe think corn is only fit to feed animals, and do not at first like the taste of edibles made of corn meal.

The corn propaganda at the Paris exposition in 1900 did good work, but the trouble was it did not reach the masses of the people who so much need this nutritious food. It is the poorly paid working people of Europe that should be reached—the people who work for from 40 cents to 60 cents per day. There are millions of this class on the Continent, and Belgium has more than its proportion, who would consume much more corn each year if they were aware of its value as human food, and were taught how to prepare it.

ALFRED A. WINSLOW,
Consul.

LIEGE, *August 12, 1901.*
No 254——6

ROLLING STOCK FOR BELGIAN RAILROADS.

Mr. Julien Liebaert, the Minister of Railroads, Post, and Telegraph, has just approved estimates submitted to him for the purchase of various rolling stock for the State railways.

About 15,000,000 francs ($2,895,000) has been appropriated for the acquisition of 100 heavy locomotives, type 32, destined for heavy freight traffic in transit; 20 locomotives, type 17, the same as those furnished by England, to be used for rapid and international trains; 35 locomotives, type 51; 180 tenders, of which 20 are to be of 18,000 liters,* 100 of 13,000 liters, and 60 of 9,000 liters capacity. Sets of wheels and pairs of wheels for locomotives are included in the specification, contracts for which will shortly be awarded. Application for specifications and plans, which are not yet ready for distribution, must be addressed to the Minister of Railroads, Post, and Telegraph, No. 11 rue Louvain, Brussels, Belgium.

GEO. W. ROOSEVELT,
BRUSSELS, *September 4, 1901.* *Consul.*

ELECTRIC POWER IN BELGIAN COAL MINES.

One of the most important coal mines in the Charleroi district has concluded arrangements for the erection of a central station, which will supply electric-motor power for three mines now in operation, situated several kilometers distant from each other.

The pumps are placed at the bottom of the pits at a depth of 500 meters (1,640 feet). The station furnishing the power is on the surface and is composed of powerful steam engines of modern construction turning large electric dynamos. The electric current which feeds them all is produced in the generating station and is transmitted over a considerable distance by means of three small wires only a few millimeters in circumference, mounted on poles, then conducted into the pits by a cable sheathed in steel. This method replaces that of the direct traction pump with shaft weighing thousands of kilograms and exacting a special exhaustion well, and only giving five or six piston strokes per minute. The electric pumps give from 150 to 200 and even more strokes per minute, and occupy very little space in the gallery.

Electric pumps offer the advantages of requiring less expenditures in placing them, less trouble to keep in order, and of being safer and much more economical as regards consumption of steam. Another advantage is that they do not conduct steam into the pits, a source of great vexation on account of resulting leaks, condensation of water, deterioration of work, great heat, etc. It is also claimed that the electric power may be employed in operating the windlasses of the mines, machines employed in washing and sorting, small cars, and for illuminating purposes. The centralization of motor force in coal mining—that is to say, the suppression of numerous small boilers and steam engines—will result in great saving in fuel.

---

* The dry liter equals 0.908 quart.

The installation herein mentioned will comprise in all four electric pumps of 200 horsepower and two groups of generators, giving 1,200 horsepower. The work has been confided to an important electric company at Liege, Belgium.

GEO. W. ROOSEVELT,
BRUSSELS, *August 27, 1901.* *Consul.*

IMPORTS OF MACHINERY INTO NORWAY.

I transmit herewith a summarized translation of an article recently appearing in a chamber of commerce publication in this consular district, touching the import of machinery into Norway. I think the facts stated in the article as to the machinery imported from the United States and the comparisons made may be of interest.

H. W. HARRIS,
MANNHEIM, *August 17, 1901.* *Consul.*

IMPORTS OF MACHINERY INTO NORWAY.

The value of the imports of machinery into Norway, according to recently published reports, has been:*

Crowns.
1897 .... 7,625,500=$2,043,634
1898 .... 9,025,300= 2,418,770
1899 .... 10,716,700= 2,872,076
1900 .... 7,488,200= 1,706,838

The principal countries from which the machinery was imported were:

Country.	1897.		1898.		1899.	
	Crowns.		*Crowns.*		*Crowns.*	
Germany	3,321,700	$890,215	3,824,000	$1,024,832	4,236,500	$1,135,382
England	2,056,300	551,188	2,627,000	704,036	3,076,700	824,556
United States	547,600	166,757	463,400	124,191	965,800	258,834
Holland	341,800	91,602	463,400	124,191	302,100	105,080
Belgium	352,800	94,550	272,600	73,057	483,200	129,478
Sweden	875,000	234,500	1,196,000	320,528	1,194,800	320,206
Denmark	340,300	91,100	451,600	121,029	429,000	114,972

---

*Amounts throughout this report were reduced to United States currency in the Bureau of Foreign Commerce.

The statistics giving the distribution among the respective countries for the year 1900 have not yet been announced.

The figures show that Germany occupies first place among the countries exporting machinery to Norway, and that this country, from 1897 to 1899, inclusive, furnished from 39 to 43 per cent of the total machine imports.

The falling off of the total import of machinery in the year 1900 is to be explained by the generally unfavorable business condition of the country.

The prominence of Germany in supplying Norway with machinery is noted in a great range of industries—machinery for paper making, mills, breweries, brickmaking, mineral-water manufacture, hand-operating machinery of different kinds, and electric machines and motors. Of the latter, there were made in the country itself only the smaller machines, while the larger machines were imported, preferably from Germany, but in some cases from Sweden. Machinery for the textile industry, which formerly came mostly from England, is of late brought largely from Germany. Machinery for wood working (saws, planers, and polishing machines) are made principally in Norway itself.

Germany has had to encounter the greatest competition in this field from England and the United States. Especially is the agricultural machinery of these countries preferred on account of its more practical construction and its lightness in weight—as, for example, in mowing machines. Denmark and Sweden have also entered successfully into competition in the department of agricultural machinery; they furnish especially mowing machines and dairy fixtures.

The United States have only for a few years past shared to any considerable extent in the exporting of machinery to Norway, but have recently secured a comparatively good market, especially for machinery designed for use in factories and shops (planes, lathes, drills, shaping machines, etc.), which are gladly bought on account of their superior form of construction and the promptness with which orders are filled. Germany is, however, continuing to meet competition in this field, as heretofore.

Germany enjoys in Norway, in reference to imported articles, highly favorable conditions. Motors pay an import duty of 5 per cent ad valorem. All other machinery is admitted free. The tax of 100 crowns ($26.80) for each period of thirty days, imposed by the laws of July 27, 1896, and May 13, 1899, on foreign commercial travelers doing business in Norway aroused at first great indignation. Although the abolition of the tax would naturally be greeted with satisfaction by those interested, they have accepted the situation.

LACE AND HOSIERY AT NOTTINGHAM.

Market conditions as to lace and hosiery at the close of the summer season disclose a generally unsatisfactory trade, and may be summarized as follows:

Lace.—Complaints of dullness have increased in the lace market during the summer months to the present. There is, of course, a large general business, but there is no buoyancy in the actual demand. Inquiries from the English markets are languid; few buyers are coming to the warehouses, and agents give depressing reports. Orders for the continental markets are limited to a few specialties of fancy laces and nets. Buyers for the United States and colonial markets are doing the most business, but the aggregate is not satisfactory to manufacturers, who find some difficulty in keeping their machinery well employed. Of the goods most in request, valenciennes, torchons, and all-over nets take the principal place. It is to be noted that those houses which have made efforts to better the quality of their goods and introduce designs of artistic excellence are doing the most business. Insertions in various widths, galloons, and fancy articles are selling. Crochet laces and warp goods at long discounts are not in average request. Moderate quantities of Irish crochet trimmings are selling. There is no improvement in the demand for beau-ideal, everlasting, and other embroidery trimmings. Silk laces only meet with a limited inquiry. Plain and fancy veilings are moving in good quantities; there is much competition, however, as the possible supply largely exceeds the actual demand. Makers of blouses, shirts, pinafores, collarettes, and other fancy articles are busy with samples, and there are hopeful signs of an extensive business; lace curtains, window blinds, and toilets are not in full request. There is a fair demand for nets and tulles in silk and cotton for millinery purposes.

Hosiery.—Reports are not favorable in the hosiery warehouses, and the depression, which set in about the time that American exports in volume ceased, has continued, although recently there has been more American demand than for three years past. Buyers place orders sparingly. Cotton stockings and socks are depressed, though the value of yarns is hardening. Cashmere hose are in moderate request, and fair quantities of half hose of merino and cashmere are moving. There is an average demand for vests (undershirts) and combinations. The fancy branches are doing a moderate business in silk, cotton, and elastic goods.

S. C. McFarland,
Nottingham, *August 30, 1901* *Consul.*

DISINCRUSTATION OF BOILERS.

Consul Ridgely, of Malaga, under date of August 22, 1901, transmits the following translation of an article recently appearing in Revista Minera Metalurgica y de Ingeneria, of Madrid, the leading journal of its kind in Spain, as of possible interest to our manufacturers and engineers:

> The use of zinc to prevent the oxidation of the iron and the incrustation in steam boilers has greatly increased during recent years.
>
> Heretofore, zinc has been employed for this purpose only in the shape of raw pigs, but after many experiments made by the society of "Mines et Fonderies de

Zinc de la Vieille Montagne," which have since been confirmed by the British Admiralty, by the national French marine, and many great maritime companies, it has been established that compressed laminated zinc made in the form of thick plates for application as an inside boiler lining is greatly superior to the old method. In fact, the galvanic current developed transforms the pig of raw zinc into a more porous substance, in which the metallic molecules are isolated one from the other by the corrosion which is quickly produced, resulting in this, that the intimate metallic contact, which causes the generation of the electric current, is eliminated. Compressed laminated zinc, on the contrary, resists the spongy internal corrosion, as it corrodes only on the surface, thus being very slowly consumed and being capable of conducting the current as long as a metallic nucleus remains. The application of the laminated plates is very simple. They are applied to the walls of the boilers by means of strips and are so distributed that the galvanic action is exercised in an even way, when possible, over the entire surface of the iron. When oxidation is produced in any part of the boiler, it is because the nearest zinc plate is too far away. By this employment of pressed zinc the incrustation of the boilers is avoided, and at small cost.

WINE IN PORTUGAL.

The wine crisis in Portugal becomes more and more serious. The quantity of wine now stored in cellars is estimated at more than 132,000,000 gallons, which leaves no room for the storage of this year's exceptionally large harvest. Some producers are asking the Government to favor the distillation of a part of the enormous stock and to interdict, temporarily, the entry of the cereal alcohols from the Azores. Other producers ask a provisionary suppression of the tax on internal consumption; but neither of these measures is likely to be taken, especially the latter, as the internal tax on wine constitutes one of the principal revenues of the budget.

A projet of law tending to remedy the crisis was proposed to the Cortes in May, but was not discussed on account of the adjournment of that body. The question will probably be settled by royal decree.

THORNWELL HAYNES,
Consul.

ROUEN, *July 27, 1901.*

THE MALAGA JORDAN-ALMOND CROP.

The first sales of Jordan almonds of this year's crop have just been effected in Malaga, at prices ranging from 27s. to 32s. ($6.56 to $7.80) per arroba of 25 pounds.

Few almonds were offered and these were only of the smallest to medium sizes. The purchasers were local merchants, who will hold the almonds for export. Some of the exporters have issued circulars announcing that there is an unusually small crop of Jordans and predicting even higher prices than the unusually high ones of last year. Those who are in the best position to know, however, state that the crop is as good as, if not better than, that of last year. This would mean from 80,000 to 85,000 boxes of 25 to 28 pounds each. Unfortunately, there is always great difficulty in knowing anything positive about the crop of Jordan almonds, because the growers, who are in the main peasants, living on the hills and in valleys, refuse to give correct information; one thing is sure: however abundant the crop may be, they are certain to shrug their shoulders and say it is the opposite.

Last year, there was a valid reason for the high prices paid for Jordan almonds. All over Europe, the almond crop failed and dealers everywhere felt the necessity of buying the much-sought "Jordans" quickly. Hence the unusual prices. This year, there is an extraordinarily large crop of almonds thoughout Europe and particularly in the famous Bari district of Italy, which is the principal seat of the European almond market. None the less, the Jordan almonds—which, as a matter of fact, do not exist outside the provinces of Malaga, Granada, and Almeria, and are exported only from Malaga—are being marketed at opening prices even a little higher than the previously unheard-of rates of last year. It would seem, then, that these almonds must be considered as something apart from all others. It remains to be seen whether or not the demand, which comes almost exclusively from England and the United States, will be sufficiently active to keep up the remarkably high opening prices.

BENJ. H. RIDGELY,
Consul.

MALAGA, *August 21, 1901.*

SALT INDUSTRY AT CADIZ.

I give below a comparative statement of the amount of salt exported from this port in the corresponding six months of 1900 and 1901, showing an increase of about 65 per cent. This I attribute to the fact of the price having been reduced to meet competition from Italian and other salt. Our importers of salt should know that, owing to the lowered scale of prices, salt in large quantities is now being exported to Canada and Central and South America, but not a ship has loaded for a United States port from Cadiz for nearly four years.

The salt produced here is considered, for the preservation of fish and meat, better than the Italian—in fact, second to none.

It occurs to me, in view of the length of our seacoast, that we might produce salt by the Spanish method, *i. e.*, by allowing the sun to evaporate the water from what are known as "pans"—small ponds prepared for the purpose, of a uniform depth of about 18 inches. These are flooded directly from the sea three or four times a year, and in time there is left a deposit of about 3 inches of salt, which is piled in the open in the form of small pyramids until sold. This method has the advantage of being inexpensive and of not requiring machinery. The only requisites are a hot sun and a soil which will not permit the water to filter through, as the salt in solution would then be lost. Something depends, also, upon the analysis of the water; for instance, the water of the Mediterranean has a greater specific gravity than that of the Atlantic; but Italian salt is not as good for curing purposes as the Spanish.

Our import duty on salt of 8 cents per 100 pounds amounts to more than the original cost in Spain. Might it not be possible to secure our salt in Porto Rico instead of from foreign countries?

The following shows the exports:

Shipments of salt from Cadiz during the first six months of 1900 and 1901.

Month.	1900.	1901.
	*Lasts.**	*Lasts.**
January	3,394	7,020
February	4,467	4,726
March	2,722	4,445
April	4,740	1,832
May	7,806	14,564
June	3,760	8,166
Total	26,889	40,753

* The last is a measure, but is taken to weigh 2,150 kilograms (4,739 pounds).

The price during 1900 per last alongside vessel was 24 pesetas, equal at the average exchange to $3.65; present price per last alongside vessel is 22.50 pesetas, equal at current exchange to $2.98.

JOHN HOWELL CARROLL,
CADIZ, *August 28, 1901.* *Consul.*

MINERAL RESOURCES OF MALAGA.

During the past year, keen interest has been awakened in the mineral deposits of the province of Malaga, as well as in the adjacent provinces of Almeria and Granada, and it seems to me worth while to call the attention of American capitalists to the situation. The most important event of the year has been the acquisition by Schneider & Co. (the famous Creusot ordnance manufacturers) of large mining concessions at Cape Calahonda, near the town of Motril, in the province of Granada. The work of acquiring these concessions was very quietly accomplished, and it is not yet generally known that they have been acquired. This great firm has at this time a large force of engineers at Calahonda, and the work of exploring and operating the mines will soon be actively entered upon. It is probably the intention of the Schneiders to ship the ore direct to their new works at Cette, in the south of France. There is a small natural port at Calahonda, which the company may or may not decide to enlarge, but in any event ships can easily load from lighters.

Another important mining event of the year was the sale by the Andalusian Railroad Company to a French company of certain coal mines in the province of Jaen for 12,000,000 pesetas ($1,560,000). But the purpose of this report is to deal with the mineral situation in the one province of Malaga. This province has a superficial area of about 3,000 square miles, with a coast line of about 100 miles on the Mediterranean. The principal seaport is the city of Malaga, which has a large and fine new harbor and is the terminus of the Andalusian Railway. The province, with the exception of a narrow strip along the seashore, is made up entirely of mountains and deep valleys. Only one iron mine has been worked—the one at Marbella, on the coast, about halfway between Malaga and Gibraltar, which has been operated for about thirty years, and, according to recent reports, is now almost exhausted. Nor has there been any serious or well-organized effort at exploration. In spite of this fact, however, superficial deposits of iron, coal, and copper are found in many directions, and there is a widespread feeling that the work of developing the mineral wealth of the province must soon begin. This feeling is naturally augmented by the reported approaching exhaustion of the Bilbao mines, and is evidenced by the numerous applications for concessions that have been made to the Government since the 1st of January, 1900. Incidentally, it may be stated that while the superficial area of land may belong to individuals, all that exists below the surface is nominally the property of the Crown. Hence, for the purpose of exploring or operating a mine, the owner of the land must first make application to the Government. The Crown grants easy terms, however; for example, in the case of iron it demands only 3 per cent per annum on the value of the iron mined, and this at the mines. There must also be paid when the concession is demanded a cash fee of 75 pesetas* ($9.75) for the first 12 hectares (29.65 acres) of superficial area and afterwards 4 pesetas per hectare (2.471 acres) for each hectare condemned. During the thirty years prior to January 1, 1900, 2,770 concessions were applied for in the province of Malaga, or an average of about 92 a year. Since the 1st of January, 1900, however, up to the 1st of the present month (August), 480 concessions were applied for, of which 248 were duly registered, as follows:

---

* The peseta, according to the present rate of exchange, is worth 13 cents.

Character of mineral.	Concessions applied for.	Area.
	Number.	*Hectares.*
Iron	175	6,544
Coal	23	2,453
Copper	26	495
Lead	9	157
Soapstone	4	72
Manganese	3	286
Antimony	3	92
Nickel	2	36
Graphite	1	24
Baryta	1	12
Sulphur	1	12

The numerous superficial deposits of iron ore indicate that the general character of these ores would be hematite of good quality with from 50 to 64 per cent of metallic iron.

In regard to coal, the superficial deposits are of an excellent quality. The same may be said of copper; but neither coal nor copper has ever been mined, or even seriously explored for, in the province of Malaga, and little is known of what exists beneath the surface.

Nickel was mined for a while by a Belgian company, but very carelessly, and it is said the results were by no means what they should have been.

In regard to the deposits of antimony, it is stated that this metal is found in the shape of a pure metallic crystal at Viñuela, near Velez-Malaga. A Spanish engineer tells me that he knows of no other territory that produces pure metallic antimony. Incidentally, it should be noted that these deposits of the pure metal are not extensive, although the surrounding slates are all more or less impregnated with it.

I have talked with several clear-headed men here, who have a wide acquaintance with all Andalusia and believe in the great mineral possibilities of the province of Malaga. They complain that there is a lack both of enterprise and money in Spain, as well as an absence of confidence in Spanish undertakings. It is expected that at a not far-distant day foreign projectors will come here and develop the country; and my informants say that a company with sufficient capital to make serious and scientific explorations could command all the concessions it desired on very easy conditions, and would be almost certain to strike large and rich deposits of iron, coal, and copper. They think that such a company ought to be organized in the United States. If the idea should interest anybody in the United States, it would afford me pleasure to put them in communication with people here who are very anxious to see the work begun.

BENJ. H. RIDGELY,
Consul.

MALAGA, *August 21, 1901.*

MINERALS IN PERSIA.

From a reliable source, I have just received an interesting account of the undeveloped treasures in Persian soil. There are numerous large petroleum fields, not one of which is worked to any extent, much less in a systematic way. The petroleum fields in the provinces of Mazanderan, Gilan, Chamsee, Kerman, Luristan, and Arabistan are hardly touched, and render no profits worth mentioning. In those mountainous regions, naphtha is also said to exist in considerable quantities. Experts on this subject believe that the two cities Sohab and Schuschter would serve best as central stations from which to work the fields. Sohab can be easily connected with the Dijalah River by means of a navigable canal, by a narrow-gauge railway, or by pipe lines, so that the oil could be conveyed via the Dijalah and Tigris rivers to Mohammere, without heavy freights. From there, it would have to be transported by special vessels to India, Egypt, China, and Europe. The natural transportation route from Schuschter is along the course of the River Karun. The environs of Schuschter are particularly rich in petroleum and naphtha.

At present, nearly all the petroleum consumed in Asia and Africa (particularly in Japan, China, India, and Egypt) is furnished by the wells of Baku and Pennsylvania. Persian petroleum, with less costs for freight, could doubtless compete successfully in near-by countries.

The rich Persian coal veins are not properly appreciated. They cover wide regions and are worked in a very primitive way. There can be no doubt that if vertical and horizontal shafts were driven into the veins and the water pumped out, quantities of good coal could be brought to the surface.

The Persians dig unsupported shafts, not more than 20 or 30 feet deep, and abandon them as soon as water makes the work difficult, reopening the vein at another spot. Only the surface coal is utilized.

Copper, argentiferous lead, iron ore, arsenic, sulphur, cobalt, antimony, borax, tin, and other minerals are also found in large quantities in the Persian mountain districts. All these resources must remain undeveloped, so long as Persia possesses no transportation facilities.

Even the well-known turquoise pits of Persia, the most important of which are those of Nishapur, in the province of Khorassan, yield so far very little good material, owing to the fact that they are owned by natives, who can not work them in the modern system.

OLIVER J. D. HUGHES,
Consul-General.

COBURG, *August 28, 1901.*

EFFORTS TO SAVE THE GUTTA-PERCHA TREE.

The scientists in France are now engaged upon the problem of acclimatizing the *Isonandra gutta*, the tree which produces gutta-percha, indispensable to the construction of submarine cables.

It seems that no other product known at present replaces the gutta-percha found in the forests of the Malay Peninsula and in certain districts in Malacca. Inferior qualities have not the requisite durability for submarine use.

The plantations in the above-mentioned districts have been so ruinously exploited by the natives, who uproot full-grown trees and cut young plants before they come to maturity, that it is feared there will be a shortage in the supply of this quality of gutta-percha in the course of fifteen years, unless means are taken to protect the forests or to propagate the plants elsewhere.

The following figures will give some idea of the rapid increase in the export of the gum: In 1845, Europe imported only 9,000 kilograms (19,841 pounds) of gutta-percha; in 1857, when the Singapore supply was exhausted, the Malay Archipelago exported more than 240,000 kilograms (529,104 pounds); in 1879, Sumatran exportations exceeded 135,000 kilograms (299,621 pounds), and Borneo exported 1,300,000 kilograms (2,863,900 pounds). In order to attain these figures, it is estimated that the natives must have sacrificed more than 5,000,000 trees.

Expeditions sent out by France, England, and Holland to discover the botanical origin of the precious gum, and to increase its production, have reached the same conclusion. As it is almost impossible to find a full-grown gutta-percha-producing tree, the situation will be extremely grave if urgent measures are not taken.

The British Government has posted placards for the protection of the trees, with no effect. Holland has planted trees, but in insufficient number and of inferior species.

Productive species have, however, been found in the Malay forests extending between the rivers of Pahang, Patani, and Perat. They have been transplanted into Reunion and Madagascar, and if they thrive there will be less danger of a dearth in the supply of gum required for submarine cables.

W. P. ATWELL,
Consul.

ROUBAIX, *August 21, 1901.*

AMERICAN AND ENGLISH LOCOMOTIVES IN JAPAN.

I inclose clippings from the Kobé Herald, at this port, giving the views of the Sanyo Railway Company here relative to the respective merits of English and American locomotives.

It will be observed that, although British consular reports state that the end is in sight for American locomotives in Japan, this company, so far as it is concerned, emphatically disagrees with that view of the subject.

SAML. S. LYON,
Consul.

HIOGO (KOBÉ), *July 31, 1901.*

[From the Kobé Herald.]

AMERICAN AND ENGLISH LOCOMOTIVES.

We referred some short time ago to the discussion which has occurred in England and America as to the relative merits of British and American built locomotives. The experience of the Midland Company, of England, has been that American locomotives, while much cheaper as regards original cost, consume more fuel and require more repairs than British engines, while the latter, as requiring less repair, must naturally last longer. Counter statements have been made in the United States, and Lord George Hamilton, secretary for India in the British Government, has publicly stated that experience in India was in favor of the American locomotive.

It may be recalled by some that considerable discussion on this very question of the comparative merits of the British and American locomotive took place in the columns of some of the foreign journals of Japan some few years ago—in 1895, to be precise. A budget of letters appeared in this journal in connection with the claims made for the American engine by Captain Crawford, of the Baldwin Locomotive Works, of Philadelphia, who came to Japan in the spring of 1895 and introduced the American locomotive to the railways of this country. At that time, the experience of American engines on Japanese railways was of course insufficient to admit of any general deductions being made, and the controversy that occurred was entirely based on facts alleged as to the construction of the American and British types, and on experience in other countries. An actual trial of an American against an English engine was made near Gotemba, on the Tokaido line, but the result was disputed, and a final verdict does not appear to have been reached.

In the interval, the Japanese companies have had full opportunity of arriving at their own conclusions on the merits of the two types of engine chiefly competing for their patronage. In view of the recent discussion in the United States and in England, and in view of the general interest of the question, considerable importance attaches to those conclusions. We are able, through the courtesy of the Sanyo Railway officials, to give the results of the experience of this, the principal local company—one of the most enterprising railway corporations in Japan. In brief, it may be stated at once that the testimony of the Sanyo Company's officials is wholly against the British locomotive.

The Sanyo Company has been using American engines for six years. They had before used British engines only, and so favorable is the opinion formed of the American engine as against the British that the company does not at present contemplate ordering any more British locomotives. On the other hand, the company ordered eight locomotives from the well-known American works at Schenectady, New York State, as recently as May of this year, and they have at present ten engines on order from the Baldwin Works, of Philadelphia.

The Herald representative was given to understand that the Sanyo Company has altogether thirty-three American locomotives at work, exclusive of those about to arrive and those recently ordered. The company has twenty-four English engines.

In reply to questions as to the reasons for the company's abandonment of the English engine, the officials said: "We do not intend to order any more English engines just now. Our principal reasons are that we can not get them quickly enough, and that they cost one and a half times more than the American engine."

From figures quoted to the newspaper representative, it appeared that the American engine costs the Japanese buyer 20,000 yen ($10,000*), against 30,000 yen ($15,000) as the cost of the British engine. Moreover, the period within which delivery is made of the English engine, after order, is from nine to twelve months, as against seven to nine months in the case of the American manufactures. "And we always want quick delivery," the company's representatives added.

The principal fault alleged against the American engine in England is its comparatively great consumption of fuel. On this point the Sanyo Company's early experience, it seems, corresponded with that recently described in very positive terms by the locomotive superintendent of the Midland Company, of England.

"Now, however," the Sanyo Company finds, "we can run American and English engines upon nearly the same consumption of coal. And the American engines work as well as the English engines. The coal consumption of our American locomotives used to be great in comparision, because we only began to import them years after we had the English engine, and their working was new to us. Now, however, we find that the consumption of fuel is about the same with American and English engines."

On the question of the relative durability of the two locomotives, the Sanyo representatives say they believe that the "life" of the American locomotive will be shorter than that of the English engine, but they had not actually found that this was so as yet—simply because their experience was not extensive enough so far. The company, it appears, has never yet broken up an engine owing to its age. The locomotives of their first purchase are still running and repairs are always effected so as to keep them going—parts being renewed as they become unfit for use.

Some interesting particulars were given in response to an inquiry as to the points wherein the American locomotive was found superior to the English engine. The tire was instanced. The Sanyo officials find that the tire of the American engine lasts better than that of the English product. The steel seems to be harder and therefore more durable. Then the sight-feeding lubricator is found an advantage in the American locomotive not possessed by the English manufacture. Also, the American type provides a more comfortable driver's cabin. Again, the American engine is provided with air valves for the cylinders—omitted in the English engine.

---

* In round numbers.

The English engine has countervailing points of advantage, as admitted by the Japanese experts. The workmanship of the American engine, it was stated, is rough—very rough, sometimes, while that of the English engine is good—very good, in fact. The boiler in American engines is found more liable to leak than the English boiler, which is very tight and well fitted. In American engines, the construction has been found to be more scientific and original. The English engines showed inferiority of design, but the workmanship is very good. In fact, the old observation recurred even here; the English manufacturer is much more conservative than the American, who, however, is less thorough.

The main observations of the Sanyo Railway officials on the question at issue have been set forth. They are given as told to the representative of this journal, and the unprejudiced verdict must be that the testimony is entirely against the British manufacturer and his product, as the practical result of the company's experience is that no further orders are likely to go to England or to firms representing English locomotive manufacturers.

It may be added that some information was also given as to German engines. These have not as yet been introduced by the Sanyo Company, but they are run on the Hankaku, the Sanuki, and the Kiushiu railways. Our informant, who has had experience with the German engine, says it is of very good quality, but rather delicate, requiring more repairs than others.

It should be observed that the experience of the Sanyo Company is not to be taken as of general application to Japan. We shall make inquiries in other quarters on the subject, but meantime the following cutting, received the other day from the editor of Engineering (the leading journal of the trade in England), is of interest:

"The Japanese railway companies, with few exceptions, have discarded American locomotives in favor of those of British manufacture, merely using up, but not replenishing, their stock of the former, as they have experienced so much trouble from their boilers. It is only by one or two of the smaller railway companies and by the Hokkaido Railway that orders for locomotives are still placed in the United States, and for two reasons—cheapness and dispatch. For example, specifications were recently issued for locomotives for the Hokkaido Railway, for which British manufacturers were allowed to tender, but both the limit of time and the price obtainable were insuperable obstacles to the order being given to the United Kingdom. During 1900, thirty locomotives were ordered from British factories, an order for twenty-four of them, valued at £66,000 ($321,000), being placed in November. Two of the four sleeping cars which are in use on the Government railway came from home (England) and two from the United States. The former are found to be much better, and to give greater satisfaction. While it is probable that those required for future use will be constructed in Japan, the United Kingdom will benefit by supplying the fittings, such as wheels, sole bars, buffers, and springs, which are not made there. The Formosan Railway last year ordered six locomotives from the United Kingdom, to be delivered at Kelung, and steel and other materials for bridge making. To save duty, the bridges are made at Osaka, and thence sent on to the island."

This, we fear, in view of the facts given as to the Sanyo Company's intention for the future, is a very misleading statement of the case.

AMERICAN KEROSENE IN KOREA.

The largest single item of trade between the United States and Korea is kerosene.

The Standard Oil Company maintains extensive warehouses at Chemulpo and is now erecting others at Fusan. The trade is growing rapidly.

This company has been much annoyed in the past by the importation of inferior oil into Korea in the tins and cases in which its own product had been imported into Japan. In the absence of anything like a law of trade-marks or against adulteration, it was very difficult to do anything to prevent this course. However, by establishing reliable agencies for the sole control of its product at the large centers, and by maintaining a strict surveillance over these, the company's agent has recently succeeded in largely preventing this practice.

When the Standard Oil Company was about to erect warehouses at Chemulpo, there seemed to be so much opposition to the construction of supposedly dangerous buildings within the limits of the general foreign settlement that the company went across the harbor and erected the warehouses on Roze Island, thus necessitating considerable handling of cases intended for distribution in Chemulpo and by rail from this point.

Last year, an English firm doing business in Japan, the agent for Russian tank oil, asked permission to erect oil tanks within the limits of the Chemulpo general foreign settlement, in close proximity to the railway yards. The municipal council, of which the United States representative is a member, refused to grant the request. Such permission, if granted, would have given the Russian oil an unfair advantage over the American product.

This action, however, does not prevent the erection of tanks on lands adjoining the settlement, and in view of the growing trade in kerosene, it is not improbable that these may be constructed in the near future.

Russian oil is not well liked by the natives, for it contains so much paraffin as to be too thick for acceptable use in the cold winter weather when it is most in demand, while it gives off so much smoke as to be very injurious to the light-colored silk or cotton garments worn by the people, as well as to the white papered walls of the houses. It also is objectionable because of its strong odor.

Russian kerosene would have to be sold for a very low price to make it a serious competitor of the American product.

HORACE N. ALLEN,
Consul-General.

SEOUL, *July 11, 1901.*

CONDITIONS IN MANCHURIA.

THE RUSSIANS IN MANCHURIA.

In a previous report,* a reference was made to the resources of Manchuria, much of which has been verified. This was before the Boxer outbreak of last year. Since the Russians have been obliged to enter the territory to protect their railway line, this fertile and promising region has assumed even greater importance, commercially and strategically. There is much exaggeration about the number of Russian troops in this region. The 60,000 which expanded to 100,000 so quickly in the imagination of journalists and theorists may be safely cut down one-third. It is only necessary to recall the events of last summer—the way in which the great Siberian Railway was taxed to transport the troops actually forwarded, at a critical moment—to be assured that it was impossible to transport, feed, and maintain so large a force as is credited in Manchuria.

FERTILITY OF MANCHURIA.

Manchuria has an area of 363,000 square miles and is one of the most fertile countries on the globe. There are no better crops in all Asia. The Manchus have barely scratched the surface, and yet the business activity, the actual traffic, and the tangible results are a continual surprise. Well-informed persons—merchants, miners, officers—assert that it is richer in resources than any other part of China. The main roads leading south and north are said to be congested with the crowds of carts, people, and beasts of burden, all heavily laden, moving in the early winter. During the whole period of navigation, on the river from Niuchwang north, thousands of Chinese boats are continually plying. The volume of business done is estimated at from $50,000,000 to $100,000,000; and yet no part of the land is worked according to European methods, and only the least portion of it is cultivated. Millet, beans, wheat, hemp, indigo, and opium are the principal products cultivated.

INTRODUCING FOREIGN GOODS.

American goods are already known and favored on account of their cheapness—prints, canned goods, watches, clocks, musical and cuckoo clocks, steel, fancy goods, and novelties. One enterprising American merchant has ventured into Manchuria. How far he will penetrate remains to be seen. The Japanese are already on the ground with many successful imitations, as well as their own good articles of merchandise. My Japanese colleague tells me that he has suggested to Japanese exporters to save duties by shipping goods via Port Arthur, Mukden, north.

---

*See ADVANCE SHEETS No. 808 (CONSULAR REPORTS No. 241).

MANCHU VS. RUSSIAN.

The Russian's policy is one of conciliation. He knows how to deal with Chinese. He will not supersede the Manchu as an agriculturalist, however, or even as a miner. It will be some time before he is a success, in the Western sense, in either of these lines.

EXPLORING PERMITS.

Last April it was stated officially that all parties wishing to explore Manchuria for mining and other purposes must address their petitions to the agent of the Department of Foreign Affairs at Girin, Manchuria. An official explained this by saying that it was an error to suppose that permission from the Manchu governor would suffice for mining purposes. The hostilities of last year canceled all such permissions, and neither Russians nor Chinese have a right to mine now. It was stated that such permission does not now depend on Russian authority, but upon the Chinese governors, who in turn must await instruction from Pekin. All attempts at mining or exploration in such parts of Manchuria as do not belong to Russia are forbidden, unless under permit, and offenders will be dealt with according to law.

THE GOLD FIELDS OF MANCHURIA.

The area of the gold fields in Manchuria extends more than 1,700 versts (1,127 miles) along the shores of the Argun and Amur rivers, from the bed of the Hailar to the mouth of the River Sungari, 400 versts (265 miles) inland. There is no doubt as to the richness of these mines. Several years ago, small parties of Russians illegally mining here obtained from 1 to 3 pounds of gold per day. The average production of these mines is 5 to 6 zolotniks* of gold to each 100 pounds of sand; each man earned from $30 to $100 per day. Until 1888, the Chinese, in consequence of extreme prohibitory laws promulgated by the governors, could not develop the richest mines. When permission was obtained, the Chinese were unfitted for this work, and had not the requisite tools and machinery. At every stage of the development of any of these mines it is safe to say one-half of the gold is overlooked, so primitive and wasteful are their methods.

FOREIGNERS IN MANCHURIA.

It is said that no foreigners are allowed to go into Manchuria. To an extent, this is true. Only Russians and Chinese may go thither overland. It would not be safe for many foreigners to venture into the country now, for outside of the quiet parts about Girin even military guards could not guarantee safety. At present, Manchuria is no place for tourists, and the authorities would seem to be exercising only proper precaution in discouraging mere sightseers. Passes and permits are only sparingly granted, and naturally not to persons whose mission and character are not clearly known.

---

* 1 zolotnik=4.2657 grams.

RAILWAYS.

The line from Nikolsk to Harbin is not in the best working order, nor is it even considered open to general traffic. It was begun under the Cassini concession, and as projected runs in a northwesterly direction through Niugovta, Hu-lan-chui, Tsitzikar, and Harbin to Nagadau, where it strikes the main line. It was started simultaneously from Nikolsk and Harbin and was hastily run together last year. So crudely was the work done that in many places the rails, it is said, were laid upon the bare ground, regardless of the condition of the soil. It is known now that this line, as projected, is not practicable, and the present affair is only a makeshift. Harbin was to have been a railroad center, and doubtless will be under better conditions. What is usually marked on the map as Harbin is really "Sungari II;" Harbin is much nearer the river. The new line will form a more northerly curve near the river, following the course of the Sungari, uniting with the present line north of the Mukdeken range, a few versts west of Poltafskaia station. This route presents fewer difficulties of construction, and is in fact more direct than the former one. It is said now the road will be open in the autumn. But there remains the great tunnel of the Chingan Pass, which can scarcely be completed under the most favorable circumstances within a year.

The readiness with which plans are changed and errors rectified illustrates the Russian indifference to mere matters of expense or labor or time when a specific result is desired. All things are subordinate to the end in view. This is shown also in the determination to complete the original railway line as projected along the tortuous Amur, in spite of its many windings and the enormous expense involved. Lines are now marked out to again connect Girin with Mukden, Niuchwang, Wi Ju, Seoul, Gensan, Chemulpo, and Fusan. The Mukden line was connected two years ago, and was operated until the destruction of last summer and the devastation at Harbin. Parts of the Korean system are already in working order.

R. T. Greener,
Commercial Agent.

Vladivostock, *July 21, 1901.*

IMPROVING RIVERS IN CHINA.

Commissioner Rockhill sends from Pekin, August 12, 1901, copy of a note addressed by the dean of the diplomatic corps to the Chinese plenipotentiaries, asking the financial cooperation of their Government in the work of improving the Peiho and Whangpoo rivers and their acceptance of regulations concerning the Whangpoo River conservancy board. The note reads:

MR. DE COLOGAN TO THE CHINESE PLENIPOTENTIARIES.

August 8, 1901.

As I had the honor to write you on the 30th of July, the representatives of the powers, in consenting to the raising to 5 per cent effective of the present tariff on maritime imports, have decided to ask of China as a compensation to participate financially in the improvement of the courses of the Peiho and the Whangpoo.

As regards the Peiho, the works for improvement, commenced in 1898, have recently been resumed by an international committee in which the Chinese Government will be able to be represented as soon as the administration of Tientsin shall have been handed over to it. The representatives of the powers have only to request the Chinese Government to pledge itself to pay annually to the said commission a sum of 60,000 haikwan taels* for the maintenance of the works.

As regards the Whangpoo, a conservancy board, charged with the direction and control of the works, is to be created. This board shall consist of members representing the interests of the Chinese Government, and those of the foreigners engaged in the shipping trade of Shanghai. The expenses entailed by the works and the general management of the undertaking are estimated at the sum of 460,000 taels during the first twenty years. This sum shall be supplied in equal portions by the Chinese Government and foreign interests. The details of the stipulations concerning the composition, duties, and revenues of the board are given in the inclosed projet de reglement.

By taking cognizance of this latter document, your highness and your excellency will see that the powers, taking into consideration the present financial condition of the Empire, ask only of China the pecuniary sacrifices indispensable for the general interests in question.

ANNEX.

I. A river conservancy board is established at Shanghai for the Whangpoo River.

II. The board shall have the twofold duty of acting as agent for the straightening and improvement of the river and as controlling agent.

III. The jurisdiction of the board shall extend from a line drawn from the lower limit of the Kiang-nan arsenal toward the mouth of Arsenal Creek to the red buoy in the Yangtze.

IV. The board shall consist of—

- (*a*) The taotai.
- (*b*) The commissioner of customs at Shanghai.
- (*c*) Two members elected by the consular body.

---

* The value of the haikwan tael, July 1, 1901, according to the United States Mint, was 71.7 cents.

(*d*) Two members of the General Chamber of Commerce of Shanghai, elected by the committee of the said chamber.

(*e*) Two members representing shipping interests, elected by shipping companies, commercial firms, and the merchants, the total of whose entrances and clearings at Shanghai, Woosung, and other ports on the Whangpoo exceeds 50,000 tons per annum.

(*f*) A member of the municipal council of the international settlement.

(*g*) A member of the municipal council of the French concession.

(*h*) And a representative of each country the total tonnage of whose ships entering and clearing at Shanghai and any other port of the Whangpoo exceeds 500,000 tons a year.

V. The ex officio members shall hold office as long as they fill the position by virtue of which they sit on the board.

VI. The representatives of the municipal councils and of the chamber of commerce shall be elected for a period of one year. They may be immediately reelected.

The term of office of the members to be designated by the governments provided under paragraph (*h*) shall also be one year.

The term of the other members is for three years. They may be immediately reelected.

VII. In case of a vacancy during a term, the successor of the outgoing member shall be designated for one year or for three years, according to the class to which he belongs.

VIII. The board shall elect its chairman and vice-chairman from amongst its members for a term of one year. If there is no majority at the election of chairman, the senior consul shall be requested to give a casting vote.

IX. In case of the absence of the chairman, the vice-chairman shall take his place. If both of them are absent, the members shall choose among themselves a president for the occasion.

X. In all meetings of the board, if votes are equally divided, the chairman shall have a casting vote.

XI. Four members form a quorum.

XII. The board shall appoint the officials and employees deemed necessary for carrying out the works and enforcing its regulations; it shall fix their salaries, wages, and gratuities, and shall pay them out of the funds placed at its disposal, and it may make regulations and take every measure necessary concerning its staff, which it can dismiss at pleasure.

XIII. The board decides on the necessary steps for the regulation of traffic, including the placing of moorings in the river and the berthing of vessels within the limits indicated in Article III, and on all water courses (such as the Soochow Creek and others) passing through the French concession or the international settlement at Shanghai and the foreign quarter at Woosung, as well as on all the other creeks emptying into the river, for a distance of 2 English miles above their mouths.

XIV. The board has power to expropriate the private moorings and to establish a system of public moorings in the river.

XV. The authorization of the board is necessary to carry out any dredging, to build bunds, to construct jetties, or to place pontoons and hulks in the section of the river mentioned in Article XIII. The board may, at its discretion, refuse such authorization.

XVI. The board has full power to remove all obstacles in the river or the above-mentioned creeks, and to recover, if necessary, the cost of so doing from those responsible.

XVII. The board has control of all floating lights, buoys, beacons, landmarks, and light signals within the section of the river and within the creeks mentioned in Article XIII, as well as over such marks on the shore as may be necessary for the safe navigation of the river, with the exception of light-house, which shall remain subject to Article XXXII of the treaty of 1858 between Great Britain and China.

XVIII. The improvement and conservancy works of the Whangpoo shall be entirely under the technical control of the board, even should the carrying out of them necessitate works beyond the limits of its jurisdiction. In this case, the necessary orders will be transmitted by, and the work will be done with the consent of, the Chinese authorities.

XIX. The board shall receive and disburse all the funds collected for the works and take, in conjunction with the competent authorities, all proper and efficacious measures to insure the collection of the taxes and the enforcement of the regulations.

XX. The board shall appoint the harbor master and his staff. This department shall act, within the limits of the powers assigned to the board, in the section of the river indicated in Article XIII.

XXI. The board shall have power to organize a police and watch service to insure the execution of its regulations and orders.

XXII. The board shall have the direction and control of the Shanghai (Lower Yangtze) pilot service. Licenses for pilots for ships bound for Shanghai shall only be issued by the board, and at its discretion.

XXIII. In case of infractions of its regulations, the board shall sue offenders in the following way: Foreigners, before their respective consuls, or competent judicial authority; Chinese, or foreigners whose governments are not represented in China, in the mixed court, in the presence of a foreign assessor.

XXIV. All suits against the board shall be brought before the court of consuls at Shanghai. The board shall be represented in suits by its secretary.

XXV. Members of the board and persons employed by it shall not incur any personal responsibility for the votes and acts of the board for contracts made or expenses incurred by the said body, when the said votes, acts, contracts, and expenses concern the carrying out or the enforcement under the authority or by order of the board, or of one of its branches, of the regulations enacted by said body.

XXVI. Besides the provisions mentioned in Article XIII of the present annex, the board has power to enact, within the limits of its competency, all necessary ordinances and regulations, and to fix fines for the violation thereof.

XXVII. The ordinances and regulations mentioned in Article XXVI shall be submitted for the approbation of the consular body; if two months after presenting the draft of the proposed ordinances and regulations, the consular body has made no objection or suggested no modification, it shall be considered as approved and shall come into force.

XXVIII. The board has power to acquire by purchase the lands necessary for carrying out the works of improvement and conservancy of the Whangpoo, and to dispose of them.

If, for this purpose, it shall be deemed necessary to expropriate land, the rules laid down in Article VI (*a*) of "the land regulations for the foreign settlement of Shanghai north of the Yang-king-pang" shall be followed. The price shall be fixed by a committee consisting of, first, a person chosen by the authority to whose jurisdiction the owner is subject; second, one chosen by the board; and, third, one chosen by the dean of the consular corps.

XXIX. Riparian owners shall have the refusal of all land made in front of their properties by the reclamation carried out for the improvement of the water ways in question. The purchase price of these lands shall be fixed by a committee composed in the same manner as provided for in Article XXVIII.

XXX. The revenues of the board are derived from—

(*a*) An annual tax of one-tenth of 1 per cent on the assessed value of all lands and houses in the French concession and the international settlement.

(*b*) A tax of equal amount on all property with water frontage on the Whangpoo, from a line drawn from the lower limit of the Kiangnan arsenal toward the mouth of Arsenal Creek to the place where the Whangpoo empties into the Yangtze. The assessed value of this property shall be fixed by the committee mentioned in Article XXVIII.

(*c*) A tax of 5 candareens* per ton on all ships of non-Chinese type and of a tonnage superior to 150 tons, entering or leaving the port of Shanghai, Woosung, or any other port on the Whangpoo. Ships of non-Chinese type of 150 tons and under shall pay a quarter of the above-mentioned tax. These taxes shall only be leviable on each ship once every four months, irrespective of the number of its entrances and clearances. Foreign-built ships navigating the Yangtze and only stopping at Woosung to take their river papers shall be exempted from the taxes above mentioned, on condition that on their way up or down they shall not carry on any commercial transactions at Woosung. They shall, however, be allowed to take on water and supplies at Woosung.

(*d*) A tax of one-tenth of 1 per cent on all merchandise passing through the customs at Shanghai, Woosung, or any other port on the Whangpoo.

(*e*) An annual contribution from the Chinese Government equal to that supplied by the various foreign interests.

XXXI. The collection of the taxes enumerated in Article XXX shall be made through the medium of the following authorities:

Tax *a*, by the respective municipalities.

Tax *b*, to be collected from persons under the jurisdiction of governments represented in China, by their respective consuls; the taxes to be collected from Chinese, or from persons whose governments are not represented in China, by the taotai.

Taxes *c* and *d*, by the Imperial Maritime Customs.

XXXII. Should the total annual revenues of the board not be sufficient for the payment of interest and the amortization of the capital to be borrowed for carrying out the works, for keeping up the completed works, and for the service in general, the board shall have the power to increase in the same proportion the various taxes on shipping, on land and houses, and on trade to a figure sufficient to supply its recognized needs. This eventual increase would apply in the same proportion to the contribution of the Chinese Government mentioned in paragraph *e* of Article XXX.

XXXIII. The board shall give notice to the consular body of the necessity for the increase referred to in Article XXXII. Such increase shall only come into force after its approval by the consular body at Shanghai.

XXXIV. The board shall submit to the consular body at Shanghai, within six months after the closing of each financial year, its annual accounts, accompanied by a detailed report on the general management and the receipts and expenditures during the preceding twelve months. This report shall be published.

XXXV. If the exact and published accounts of receipts and expenditures show a balance of receipts over expenses, the taxes mentioned in Article XXX shall be proportionately reduced by the board and the consular body at Shanghai, acting conjointly. The eventual reduction shall apply in the same proportion to the contribution of the Chinese Government referred to in paragraph *e* of Article XXX.

---

* 100 candareens make 1 tael.

XXXVI. At the expiration of the first term of three years, the signatories shall examine conjointly whether the provisions contained in the present annex require revision. A new revision can take place every three years under the same conditions.

XXXVII. The regulations of the board within the limits provided for in Article XIII and subject to the approbation of the consular body at Shanghai shall be binding on all foreigners.

TRADE NOTES FROM CHINA.

Mr. Squiers, secretary of legation at Pekin, sends under date of August 1, 1901, a report from Consul Martin, of Chinkiang, in regard to trade conditions in that consular district, as follows:

The Chinkiang consular district contains three treaty ports, namely, Chinkiang, Nankin, and Wuhu; it extends almost to Kiukiang in one direction and 150 miles up the Grand Canal in the other. While it covers a large area in the Yangtze Valley—an area rich in soil, salubrious in climate, and extensively cultivated—it is not exploited by American merchants. No direct shipments come from the United States to any of the ports, and there is but one American merchant in the district—in Chinkiang—and his business is largely involved in Chinese interests.

American goods doubtless come into the ports in much larger quantities than are recorded, but as they are usually entered from Shanghai, and are shipped by foreign merchants, they lose their identity. Chinkiang being the nearest port to the entrance of the Grand Canal from the Yangtze Kiang, quantities of goods are transshipped into the interior via Chinese cargo boats and distributed along the canal. The business is, however, handled almost entirely by Chinese, or by Chinese in the name of a foreign firm, to evade the extortion of the likin runners, which seems to be growing worse.

While, therefore, there is little I can say from experience concerning our commercial relations with China, there are a few conditions so essential to success that the most casual observer must recognize them:

First. If foreigners ever build up a large trade in China, it must be with the help of the Chinese themselves, and this can be won only by treating them with respect. No American can live in China long without seeing that foreigners are inclined to treat the Chinese negligently, even when their interests would seem to dictate an opposite course. The Chinese naturally resent this.

Second. The entire country should be open to foreign trade, and a judicial system should be formulated to meet the requirements of all foreigners in the Empire. Much of the trouble in the past has risen from differences of opinion as to what punishment would best subserve the ends of justice.

Third. The likin should be abolished, in favor of some other system of taxation that would secure the required revenue. The likin, as now operated, I regard as the most perfect method of extracting all conceivable profit from trade. Its tendency is to localize trade by hedging goods about with such expenses that they can not be moved. When commodities can be transported from one end of China to the other without any tax save the freights, the whole nation will teem with activity.

TRAMS AND TELEPHONES OF BANGKOK.

Bangkok enjoys the advantages of an electric-light plant and of an electric tram line 6 miles long, and is now laying a second line of equal length. These are all private enterprises. The service of the two plants already in operation is fairly good, and, together with the introduction of the new tram line, they mark a decided advance in the development of the city.

The telephone system of Bangkok is decidedly bad. It is owned by the Government and forms part of the postal-telegraph department. There are some two hundred instruments of the Keiser-Schmidt, Berlin, make in the city at present, and to anyone who has ever attempted to use one of these, it is evident that even this limited number stands as a monument to the patience and good nature of the citizens. Better results are produced every day by the American boy with his tow string and the resonant bottom of a tin can.

Yet this is a city of magnificent distances, and, taking into consideration the manner in which the palace and its surrounding public buildings are separated from the legations and consulates, the distance of the walled city from the residences of most of the foreigners, of the large foreign firms one from the other, of the old palace group from the new palace in its beautiful park, and the entire division of the old city from the new by the river, which is crossed by no bridges, few cities are better fitted to appreciate a first-class telephone system. The Siamese are a people who know a good thing when they see it, and they, together with the long-suffering members of the foreign community, would generously patronize a good telephone system, were it at once established. There should be at least 1,000 instruments in use in the city, in place of 200, and this number without question would be largely increased as the fact was borne in upon the public that a telephone was invented to save time and for convenience.

There would seem to be an opening for the introduction of an improved system in Bangkok, and with the present condition of affairs a few first-class instruments in some of the public buildings might soon work a change in the entire city.

HAMILTON KING,
Consul-General.

BANGKOK, *August 1, 1901.*

PROPOSED CABLE TO HONGKONG.

In connection with the proposed construction of a cable from the United States to Manila and its eventual connection with Hongkong, I have to report that the business community of Hongkong takes a keen interest in obtaining additional cable facilities. The excessive rates charged by the present cable companies have been a source of long-continued dissatisfaction, and an American cable company that would be the means of reducing rates would be extremely popular in the Orient, and should receive a large share of local patronage.

The present cable tariff between the United States and Hongkong is from $1.65 to $1.75 (United States currency) per word. It is reported that an American cable company would establish a rate not exceeding $1 a word. Such a reduction would be a great boon to the business men in the Orient. The chairman of the Hongkong Chamber of Commerce last month, at my suggestion, brought the matter before the committee of the chamber, and this representative institution indorsed the project, expressing the opinion that the increased facilities afforded by reduced tariff rates would lead to a very considerable expansion of trade between the Far East and Western countries.

W. A. RUBLEE,
Consul-General.

HONGKONG, *July 3, 1901.*

AUSTRALIAN CABLE SOUNDINGS.

The British cable steamer *Britannia* arrived on the 12th instant from Brisbane, Queensland, her work being to mark out a track for the new Pacific cable. On the passage across from Australia, soundings were taken every 10 miles. About 100 miles from the coast an obstruction was met with, a mountain or range of mountains coming right in the track, and a slight deviation south had to be made in order to clear it. Two thousand eight hundred fathoms was the greatest depth obtained, and 257 fathoms the shallowest, on top of the mountains referred to. It has been decided that Anson Bay, on the west side, is the best place to land the cable here. Anson Bay is 6 miles from the settlement of Kingston. A cable house is to be built close to the shore in the bay.

Norfolk Island will be one of the most important stations, as all messages to Australia and New Zealand will converge here, to be repeated. The Australian and New Zealand portion of the line will, it is stated, be completed by the middle of next year; the other portion, by the end of 1902.

The *Britannia* sailed for Auckland, New Zealand, to-day, and will take soundings on the passage; she is expected to return in three or four weeks, and to depart for Fiji on a like errand.

ISAAC ROBINSON,
Consular Agent.

NORFOLK ISLAND, *June 20, 1901.*

ZINC AND MANGANESE IN NEW SOUTH WALES.*

Zinc ores are distributed widely over New South Wales. There have been received at the department of mines in Sydney specimens of ore from ninety-six different localities. There are several combinations of this ore among these specimens, as red oxide of zinc, which contains 80.3 per cent of zinc. The carbonate of zinc contains 52 per cent of zinc, in combination with silver and zinc blende. Sulphide of zinc, containing 67 per cent of zinc when pure, also often contains iron, and sometimes cadmium. This is the most common ore of zinc, and is found associated with galena in most of the silver mines of New South Wales. No attempt has been made to mine this metal specially for the production of zinc, but its occurrence is regarded as detrimental to the ores of silver and lead with which it is nearly always associated. In the enormous deposits of sulphide ores which occur at Broken Hill, zinc blende is one of the principal constituents.

When the ore is finally ground, it is possible to separate the galena from the blende by vanners, and it is then found that each of the minerals carries a portion of the silver. At first, the whole of the zinc contents of the ore was lost in the smelting operations, but later a process of concentration was adopted, and this resulted in saving a portion of zinc concentrates.

From the year 1889 down to 1899, the total production of zinc concentrates has been 118,632 tons.

---

*Report made in reply to a Boston correspondent, to whom an advance copy has been mailed.

Manganese exists, I understand, in considerable quantities in widely separated localities in New South Wales, but owing to the low prices obtainable for ore containing not less than 50 per cent metal—from $10 to $12 per ton in Sydney—the mining of it has not been carried on to any great extent. Most of the deposits are far from the seaboard, rendering transportation so costly that there is little profit in the production. It occurs as crystals in the gangue of the Broken Hill Silver Lode, associated with garnets; these are found in a massive condition at a number of other localities.

The only method by which machines—especially mining machines—can be introduced into Australia is to send one with a competent man to show its working to the miners.

ORLANDO H. BAKER,
SYDNEY, *July 31, 1901.* *Consul.*

AMERICAN BAR IRON IN AUSTRALIA.

As many complaints have been made to this consulate regarding the quality of bar iron shipped from the United States to the Australian states, I addressed a letter to the leading importers requesting definite particulars, and received the following reply from one of the largest dealers in iron in the city of Melbourne:

> The abnormal rise in the price of British bar iron at the beginning of the year 1900 furnished the opening for the introduction of American iron to the Australian market. There had been several parcels previously imported into this country, which had given modified satisfaction, but the importation was limited, and the few tons were not relied upon as indicating the average quality and finish of American iron. The various agents of American rolling mills speedily became alive to the fact that the British prices were $20 a ton in excess of the American, and a very large business resulted, as the Australian importers readily embraced the opportunity of buying merchantable bars at a figure which would leave them a large profit. The American prices continued to fall, owing to internal competition, and orders were diverted from the markets of Great Britain to those of the United States. The American rolling mills missed their chance, and instead of doing all in their power to secure the business of the Australian merchants for future requirements, evinced little interest in the orders they received, took their own time for delivery, and, instead of giving attention to the oversea demand, considered the home trade, which was already secured, first. They failed in every instance to comply with the requirements of the importers on this side—which were consonant with the methods adopted by British exporters—and followed their own will to their ultimate disadvantage. To add to the trouble thus created, the agents of the various New York shipping firms, anxious to secure freights and knowing little and caring less of the quality of the bars shipped, based their cost, freight, and insurance price on the cheapest rate for any quality of iron, and obtained large orders from Australian importers, the bulk of which have given great dissatisfaction. The result is that the American bar iron is not liked in Australia, its want of popularity being entirely due to the indifference of the American manufacturers.

There are three qualities of American bar iron, viz, ordinary, refined, and a better quality still. The refined iron, if carefully rolled and uniform in quality, will meet all the ordinary requirements of this market, but the United States mills mixed their qualities, frequently failed to brand their own outturn, and paid little attention to the finish of their rolls, so that faulty rolling gave great inconvenience to the local manufacturers of implements and caused them to condemn all American iron. One other source of trouble was that the tariff in the United States for the making of special sizes was infinitely in excess of the British scale, and although some effort was made to reduce this enormous disparity, a very wide difference yet remains; consequently, no Australian importer has been able to gauge with accuracy the relative values of the British and American iron, and has given his influence in favor of the former; and British manufacturers, seeing that there was a likelihood of the business going to America, promptly reduced their prices. Australian importers then endeavored to repudiate their contracts on the perfectly legitimate grounds that the iron was faulty, not in accordance with specifications, and in many instances not iron at all, but mild steel; which latter, while useful for many things, does not answer all the purposes for which ordinary refined bar iron is used in this country. One case was tried in the Victorian courts, and the judge gave a verdict against the agent of the American company. The Belgians and Germans made an effort to capture the Australian markets, but owing to the cupidity of many manufacturers, who sacrificed quality for the sake of a few francs or marks per ton, their productions easily fell out of favor and very little is now imported into this commonwealth.

There is one way in which the United States may rehabilitate themselves, and that is by holding large consignments in both Sydney and Melbourne, satisfying the buyers that the American mills are honestly anxious to meet the Australian requirements, and meeting all British and other foreign competition. Strict integrity must be observed in the fulfillment of all contracts, and if every other care is taken, it is yet possible for the United States to retrieve their position and command these markets; and as the trade of the commonwealth will increase by leaps and bounds, it follows that in a few years the market here will be a very solid factor to be considered in the American export of bar iron. Some points will of necessity have to be conceded, and among them are the faultless rolling of all bars and the throwing out of all bad ones. The tariff for extra sizes must conform to the British tariff. Bundles of bar iron must be made up in exactly 56 and 112 pounds, respectively, where so ordered, and the lengths must be within the limits named, even if the exact weights have to be made up with small pieces. This is necessary to avoid weighing each bundle. There will have to be strict uniformity in stocks, and prices must be kept within the limits of the British rates. Given these condtiions, and large stocks held in stores in Melbourne and Sydney in the hands of a responsible representative, concessions in transport to other and smaller states, and uniform quality and rolling guaranteed, there will be an opportunity for the United States to obtain the trade and control the market of the Australian commonwealth.

JOHN P. BRAY,
Consul-General.

MELBOURNE, *July 10, 1901.*

AGRICULTURE AND LIVE STOCK IN SOUTH AFRICA.

Under date of July 17, 1901, Consul-General Stowe, of Cape Town, sends the following description of agricultural and other conditions in Cape Colony, taken from a statement by Mr. Curren, Under Secretary for Agriculture:

OSTRICH FARMING.

Ostrich farming was, at its first inception, highly speculative, owing to want of knowledge and experience; but for the last fifteen years it has been a fairly stable and highly successful industry. The following table shows the difference in value of three normal years:

Year.	Number of birds.	Feathers.	Value.	Rate per pound.
		Pounds.		
1890	114,411	212,276	$2,744,453	$12.79
1895	253,463	353,651	2,568,451	7.26
1899	260,672	373,182	4,097,593	12.14

SHEEP AND GOATS.

In the districts of King Williamstown, Bedford, and Somerset East, holdings of 5,000 to 10,000 sheep are to be found, these districts carrying from 30 to 120 sheep per square mile. The districts farther to the east and north, known as the grass districts, carry from 150 to 350 sheep per square mile, and compare very favorably with the western slopes of New South Wales and the Riverina district. The two great scourges which affect sheep raising are the blood-sucking tick and the scab. The trend of experiments lead to the hope that the tick, after a lapse of time, becomes nonpathogenic, and that an effectual means of combating the disease will be found in inoculation with an attentuated form of the poison. It is impossible to hope that scab will be successfully eradicated without the adoption of more stringent regulations than the present.

Angora-goat farming is an increasing and prosperous industry. The production of mohair has steadily increased in twenty-six years from 1,000,000 to 12,000,000 pounds per annum; the total animal production is now greater than that of any other country in the world, exceeding even Turkey by over 25 per cent in the lower grades of hair, though in quality and weight it is inferior to the finest quality of Turkish mohair.

HORSES.

One of the great lessons of the war was to show the value of the South African horse. If the Boers had not been so excellently mounted as they were, on horses bred in the Transvaal, Orange Free State, and Cape Colony, the war would have worn a different aspect. The South African horse can live on much less food than an English horse; he does not suffer from the climate; he does not tumble into holes; he is sounder, is more sensible, and learns better to stand alone without being tied up. The Farming Industry, of Cape Colony, says: "There is little doubt that mule breeding, as well as horse breeding, if conducted on successful principles and managed skillfully, has a great future before it in South Africa, the animals bred being not only for use in the colony and up country, but for export to India and other parts of the world for army purposes."

CATTLE.

Cape Colony possesses a vast area north of the Orange River, about 51,000 square miles in extent, which is better adapted for cattle rearing than any other portion of the colony, and promises to be one of the finest cattle countries in the world. The dairy industry has only recently become of importance. The number of cooperative creameries is rapidly increasing, and this industry would have already reached considerable dimensions except for the rinderpest.

FRUIT.

Fruit and viticulture may be regarded as in their infancy, but they are able to cope with the growing demand of such home markets as Kimberley, Johannesburg, and Bulawayo. The opening up of fresh fruit and vine districts by railway extension, together with the advantages the Cape has over other fruit-growing countries in its geographical and its climatic conditions, will greatly develop the exportation of fruit. The rapid increase of fruit exports is shown by the following figures:

	Cases.
1897–98	9,169
1898–99	10,817
1899–1900	17,536

The Cape produces a good, wholesome, and palatable wine, which finds a ready sale in the colony; the supply is much under the demand, and wine making, therefore, affords excellent prospects.

FOREST AREAS.

The colony has a forest organization doing work unequaled in any British colony. The fine plantations on the Cape flats are the largest and most successful in the southern hemisphere. Enough coniferous wood could be produced by the cheap process of broadcast sowing to render South Africa an exporting timber country.

CEREALS AND LUCERN.

Some of the finest grain-growing districts are Aliwal North, Herschel, Barkly East, and Basutoland. Only easy access to a market is required to throw areas of land under cultivation of wheat, rye, and oats. The cultivation of lucern is carried on with most satisfactory results throughout that large area of the colony which enjoys a rainfall of from 20 to 40 inches. It furnishes from four to six crops in summer, and from one to two crops in winter.

RAINFALL, WATER SUPPLY, IRRIGATION.

The greater part of the colony possesses an annual rainfall of from 20 to 40 inches. The 15 or 20 inches of fairly certain winter rainfall is enough for the winter grain crops. Water boring has been of much service for watering stock and for horticulture, and although a depth of from 20 to 100 feet is the usual level at which water is struck, the volume is not sufficient for agriculture on a large scale. Artesian well borings, at great depths, have yet to be tried systematically, but there seems no reason for asserting that the experience gained in Australia should not be repeated in South Africa.

SISAL HEMP IN EAST AFRICA.*

Sisal culture in East Africa is progressing, there being over 150,000 plants set out in one locality. A few were brought from Yucatan in 1891, and the number has grown as mentioned. In another locality are plants covering 1,990 acres. Six hundred acres of Mauritius agave hemp are laid out in the same territory.

DEMAND FOR HORSES IN SOUTH AFRICA.

Most of the horses and mules imported for army use into South Africa are purchased in the United States. Animals brought from other countries stand the climate well and require but little rest after landing before being put to work, but their lack of size and strength renders them unsuitable for farm and city use. The veldts of South Africa are dotted with carcasses of horses that have fallen by the wayside, overcome by fatigue, starvation, or sickness. Mules are more hardy, especially American mules, which, owing to their size, strength, and adaptability to all kinds of work, are always in demand. Although many horses and mules have been imported into this colony during the war, many more will be needed. By the time hostilities have entirely ceased, there will be a dearth of these animals. Many farm horses have been commandeered, and those undisturbed by the military authorities are sadly in need of recuperation. There has been one sale by the authorities of horses and mules unfitted for army use. These animals were offered at a low price, with the object of benefiting the farmers who have suffered losses of live stock during the war. With a little care, many of them could be restored to health. The need of the army has been so urgent that many of the horses were not allowed sufficient time to recover from the effects of the ocean voyage before they were put to work. Horses that have become acclimated are said to be "salted." An American firm in this city has built up a large business in the sale of American horses and mules. Among its importations have been a number of excellent carriage horses. On arrival, the animals are allowed to rest, are well taken care of, and generally become acclimated without suffering. The company owns commodious stables at Cape Town.

After the war is over, the opportunities for business in this line will be greatly increased, not only in Cape Colony, but in the Transvaal, the Orange Free State, and Natal. Cape Town is a good place at which to land and care for stock before shipment elsewhere. Prices are, and will continue to be, satisfactory.

JAMES G. STOWE,
Consul-General.

CAPE TOWN, *July 16, 1901.*

---

* This paragraph was forwarded by Mr. Stowe July 13, 1901. The information is from a Belgian consular report.

COTTON RAISING IN GERMAN WEST AFRICA.

The Germans are making efforts to raise cotton in their possessions on the west coast of Africa. The latest experiment in this direction has been made in Togoland, and is described in the following article, taken from the Brunswick Landeszeitung of September 1, 1901:

COTTON CULTURE IN TOGO.

If the present attempts succeed, a great future is opened to our Togo colony. The Government has taken into its service four intelligent negroes from Alabama, who have had a good school training and are experienced in the cultivation of cotton. They were selected by the president of the Tuskegee Institute, in Alabama. The men left New York last year, taking with them all necessary tools and machines.

The president of the Tuskegee Institute has received a letter from one of them, saying: "We have brought under cultivation 40 hectares (100 acres) ot land, and a part of it has been planted in cotton, indian corn, and peanuts. The cotton has already more fruit than many a farmer in America gets in a whole harvest. Six months ago, there was nothing to be seen here but thicket and elephant grass, but to-day several buildings have been erected. I am engaged in setting up the cotton gin, so as to be ready for the harvest. I find the natives are glad to work, but they can not accomplish much and soon become tired."

It is reported from Alabama that there are many colored cotton planters preparing to settle in Togo. The attempts of the English to establish cotton planting in Africa have failed, because the work was done by white men, who could not stand the hot climate. The Germans have made the experiment with negroes, whose ancestors came from Africa, and who have become masters of cotton planting in America.

This pioneer work opens the prospect of the development of a mighty cotton industry upon German colonial soil.

Togo is the most northerly of the German possessions in West Africa. It is situated on the Slave Coast, almost directly under the Equator, between British Ashanti and French Dahomey. It has about 26,000 square miles and an estimated population of 500,000 inhabitants. It is consequently about one-sixth less than the State of South Carolina in size, and has about one-third of the population of that State. Its chief export has hitherto been palm oil. Under the most favorable circumstances, it can hardly become a dangerous competitor in cotton. Whether cotton raising in the other possessions of Germany in the same region will be equally successful remains to be seen.

TALBOT J. ALBERT,
Consul.

BRUNSWICK, *September 6, 1901.*
No 254——8

ARGENTINE TRADE IN 1901.

Minister Lord sends from Buenos Ayres figures compiled by the legation relative to the foreign trade of the Argentine Republic in the first six months of 1901, as compared with the same period in 1900, as follows:

Description.	January-June, 1900.		January-June, 1901.	
	Imports.	Exports.	Imports.	Exports.
Dutiable	$49,791,537	$38,896,321	$47,036,774	$41,598,260
Free	6,736,156	55,202,830	9,583,001	56,178,504
Total	56,527,693	94,099,151	56,619,775	97,776,764

According to these figures, says the minister, the increase of imports for the first six months of the present year, compared with the same period last year, amounts to $92,082, and that of exports to $3,677,613, or a total increase in foreign trade of $3,769,695 during this period.

The following table shows the countries which participated in the imports during the two periods under comparison:

Country.	January-June—		Increase.	Decrease.
	1900.	1901.		
Germany	$8,019,795	$8,707,668	$687,873	
West Indies	12,162	35,064	22,902	
Belgium	4,695,464	4,238,450		$457,014
Bolivia	53,844	54,698	854	
Brazil	1,918,027	1,820,701		97,326
Chile	79,241	60,335		18,906
Spain	1,887,683	1,958,023	70,340	
United States	5,653,894	6,854,849	1,200,955	
France	5,838,197	5,276,479		561,718
Italy	7,838,252	7,734,312		103,940
Netherlands	89,191	83,911		5,280
Paraguay	812,492	872,986	60,494	
United Kingdom	19,307,951	18,452,332		855,619
Uruguay	221,205	338,668	117,463	
Other countries	100,295	131,299	31,004	
Total	56,527,693	56,619,775	2,191,885	2,099,803
Net increase			92,082	

The imports, by classes, for the same periods were:

Description.	January-June—	
	1900.	1901.
Live animals	$162,299	$112,232
Food stuffs:		
Animal	959,345	923,300
Vegetable	4,169,786	4,174,800
Tobacco	1,596,164	1,734,852
Beverages:		
Wines	2,888,623	2,883,090
Spirits and liquors	661,777	596,732
Other beverages	164,790	147,381
Textiles and manufactures of:		
Silk	1,298,674	967,223
Woolen	4,255,019	4,256,529
Cotton	10,231,728	8,400,351
Other textile fibers	3,524,843	3,778,300
Oils	2,063,263	2,064,043
Chemicals and drugs	1,934,870	1,994,516
Dyes and colors	452,657	445,709
Lumber	2,642,987	2,828,060
Manufactured woods	637,108	688,237
Paper	936,088	1,035,394
Manufactured	583,668	445,310
Leather and manufactures of	607,787	553,667
Iron and manufactures of:		
Raw	4,615,968	5,054,393
Machinery and tools	636,883	824,942
Other manufactures of iron and steel	3,738,532	3,873,283
Other metals:		
Raw	690,482	678,265
Manufactured	1,020,980	1,004,309
Crockery and ceramic products:		
Raw	3,589,607	4,575,483
Manufactured	873,556	896,181
Miscellaneous	1,590,209	1,683,193
Total	56,527,693	56,619,775

The following table shows the countries participating in the exports of the Republic during the first six months of the calendar years 1900 and 1901:

Country.	January-June—		Increase.	Decrease.
	1900.	1901.		
Africa	$2,042,517	$1,417,865		$624,652
Germany	13,703,887	14,103,983	$400,096	
West Indies	166,573	264,725	98,152	
Belgium	13,063,352	8,867,651		4,195,701
Bolivia	389,682	447,409	57,727	
Brazil	1,841,001	4,080,947	2,239,946	
Chile	421,796	347,041		74,755
Spain	1,072,447	1,034,906		37,541
United States	3,626,480	3,864,485	238,005	
France	12,550,390	16,511,941	3,961,551	

Country.	January-June—		Increase.	Decrease.
	1900.	1901.		
Italy	$2,160,679	$2,459,970	$299,291	
Netherlands	2,506,015	1,319,812		$1,186,203
Paraguay	36,111	132,906	96,795	
United Kingdom	11,963,596	15,473,482	3,509,886	
Uruguay	869,915	2,111,313	1,241,398	
Other countries	4,072,110	4,511,667	439,557	
To orders	23,612,600	20,826,661		2,785,939
Total	94,099,151	97,776,764	12,582,404	8,904,791
Net increase			3,677,613	

The classes of exports for the two periods under consideration were as follows:

Article.	January-June—	
	1900.	1901.
Pastoral products:		
Live stock	$4,482,191	$2,235,527
Wool, hides, etc	36,039,167	44,857,400
Manufactured articles from animal products	1,846,501	2,680,275
Animal refuse	349,692	293,551
Agricultural products:		
Raw materials (wheat, corn, etc.)	47,336,582	41,936,988
Manufactured materials	554,531	2,371,956
Vegetable refuse	659,635	807,419
Woods and products therefrom	1,824,351	1,475,098
Minerals	107,555	213,778
Hunting products	339,308	338,629
Miscellaneous	559,638	566,143
Total	94,099,151	97,776,764

COMMERCIAL CONDITIONS IN COLOMBIA.

The Department has received a report from Colombia, dated August 11, 1901, which reads as follows:

The commercial situation here is more depressed and more difficult for all kinds of legitimate transactions than it has been since the beginning of the civil war now in progress. From the gathering of the crops to the shipping thereof great difficulties, in many cases insurmountable, are encountered. The majority of the coffee crop has remained ungathered because laborers could not be secured. Of the crops gathered, a great deal remains on the plantation or deposited elsewhere because beasts can not be secured to ship it to the Magdalena River. Other large quantities of coffee remain at river ports awaiting shipment. The coffee in hand which, for various reasons, can not be forwarded for export is roughly spoken of as hundreds of thousands of bags. A great deal of this coffee was bought by foreigners, or taken by them in payment of debts, before the imposition of the present duty of 60 cents gold per 100 kilograms (220.46 pounds), and before the heavy increase in freight rates from the interior to the coast had taken place. All this coffee to-day represents heavy loss. It is insisted by those familiar with the business that coffee from the interior of Colombia can not withstand the present charges against it. For example, an itemized statement of the charges on a ton of coffee in the husk (pergamino) from Bogotá to New York foots up $80.59 gold before the coffee is taken out of the ship at a New York dock. It is stated by way of comparison that the cost of shipping the same amount of Brazilian coffee from the interior of Brazil to New York is $10 gold, leaving the ton of Colombian coffee at a disadvantage of $70.59 gold as compared with the Brazilian product. Adding to the sum of $80.59 gold, representing the shipping charges from Bogotá to New York, the sum of $50 gold per ton, present value of the coffee in this market, the ton of coffee costs the shipper $130.59 gold in the hold of the steamer alongside the dock in New York. The ton of coffee when cleaned (trillado) is reduced to about 1,600 pounds, so that the coffee when it arrives in New York, and before it is unloaded, represents a cost of 8.16 cents gold per pound. To this must be added commission and all costs of handling in New York.

Hides are held in large quantities and can not be shipped for the reasons that prevent the shipping of coffee. Quantities of hides, representing large values, have so deteriorated as to become worthless. In some instances, this has resulted from the impossibility of obtaining poison for their preservation, and in others because they had already been so heavily poisoned that they would stand no more. The inability to ship hides is particularly vexatious to holders, because of the present high prices of this article of export in the New York market. Hides, unlike coffee, would easily stand the present heavy freight and other charges against them, if they could be got to New York. Many American houses are heavily interested in the present large holding of Colombian hides and coffee, some of them directly as owners, others as creditors of Colombian holders, and some in both respects.

There is no means of foretelling how soon the present strained situation may be relieved. Those most interested are not basing their calculations on early relief.

BRAZIL-UNITED STATES STEAMSHIP SYNDICATE.

As is well known, the steamship lines engaged in the carrying trade between the United States and Brazil long since constituted a syndicate for the purpose of controlling the freight rates. They have heretofore succeeded in doing so, and, through adroit maneuvering, forced the great American coffee shippers, on whom the American-Brazilian carrying trade mainly depends, to accept their rates and to ship exclusively by their steamers.

The success and the supposed strength and influence of this monopoly constitute the main reason why American shipowners or capitalists inclined to buy merchant vessels refrained from entering into so lucrative a field. The arbitrary power of this "combine" is now being considerably weakened.

The most important of American shippers, three of the leading coffee firms, have emancipated themselves from its dictation. Messrs. Arbuckle & Co., J. W. Doane & Co., and Hard & Rand have already chartered "outside" steamers for their coffee freight. The firm of Arbuckle & Co. alone has already freighted four such independent steamers and has made a further contract for the carrying of 200,000 bags of coffee from here (Rio de Janeiro) to New York.

The independent steamers charge 25 cents per bag (132 pounds) of coffee, while the steamer trust charges 35 cents and 5 per cent primage. In this connection, I desire to call attention to the fact that the Lloyd Brazileiro (Brazilian Lloyd), which has the monopoly of the coastwise trade of Brazil and enjoys valuable privileges and subsidies from the National Government, has now, after its bankruptcy, been reorganized, and is, since the 1st of this month, under a new management. I have had repeated conferences with the new directors, Messrs. Cordeiro da Graca and Louis Campos, and have reason to believe that my suggestions as to a considerable reduction of the freights on goods coming from the United States and destined to ports south of Rio de Janeiro, and also as to the organization of a parcel service between the United States and Brazil, will be speedily and favorably considered. I would like to receive suggestions in this direction from American shippers and transportation houses.

EUGENE SEEGER,
Consul-General.

RIO DE JANEIRO, *August 8, 1901.*

TRADE OF LA PAZ, BOLIVIA.

Vice-Consul-General Murphy, of Frankfort, sends a translation from the Berlin Suedamerikanische Rundschau, as follows:

The German consul at La Paz reports that Germany holds the first place, as far as importations into Bolivia through La Paz are concerned, in deliveries of woolens and silks, iron wares, clothing, knitted wares, and furniture. France leads in the importation of wines and liquors, owing to the fact that it has for years had a commercial treaty with Bolivia under which French wines are admitted free of duty.* If the United States is first in the importation of cotton wares, this is due to the fact that it supplies a much used article, gray shirting, which even Manchester can not manufacture so cheaply. Germany takes the second place in cotton wares, while England comes third. An important article of importation from Germany is machinery for mines and smelting works. The entire material for the waterworks of the city of Oruro was brought from Germany. Cannon and rifles were also supplied by Germany through English firms. Narrow-gauge railways are mostly of German origin.

Concerning exportations from the department of La Paz, no statistics are available. The principal export article was rubber. In smaller quantities, cinchona bark and tin ore were also exported. From Corocoro important quantities of very rich copper ore are sent to England. The departments of Oruro and Potosi export much tin and silver ore, the business being chiefly in German hands. The richest tin ore in the world comes from Bolivia, but many of the mines are in the hands of persons of small means, whose capital is not sufficient to render possible a profitable exploitation of the property. The United States and England are doing their utmost to get the rich mines into their hands and are constantly sending, at great expense, experts to Bolivia to study the country. Sooner or later, they will get possession of the best mining lands.

The quality of Bolivian rubber is excellent, and this rubber commands almost the same price as that of Para, which is not to be wondered at, as the Bolivian tree does not differ from that found in the Amazon Valley. The production is, however, unfavorably affected by the lack of laborers and insufficient facilities for transportation.

PRODUCTION OF WINE IN CHILE.

Vine culture and the production of wines has, in recent years, become an important industry in the Republic of Chile. Lying as it does between the Andes Mountains and the Pacific Ocean, and extending north and south for a distance of 2,400 miles, Chile possesses conditions of soil and climate that are admirably adapted to horticulture, and especially to the cultivation of a variety of wine-producing grapes.

The National Viticultural Society of Santiago, which includes in its membership the principal wine producers of Chile, has done much to promote the industry in this country. The society is now engaged in an endeavor to collect data for a statistical report of all the vineyards of the country, their annual production, capital invested, number of people employed, etc. From the best information obtainable at this time, it is estimated that the wine industry in Chile represents capital aggregating $150,000,000, and gives employment to 50,000 people. About 10,000 acres of land are devoted to grape culture, and many young vines are being added yearly.

---

* Since the report quoted above was written, notice has been given which will terminate in May, 1902, the commercial convention of September 15, 1892, between Bolivia and France. French wine will then be subject to the same duty as that from other countries.

The process of manufacturing wines in Chile is much the same as that employed in France, and many of the establishments here possess the most modern equipments. Both red and white wines are produced, some of which, with age, attain a very fine flavor. Chilean wines are somewhat heavier than the French wines. The greater part of the wine consumed in Chile is the native product, which grows in popularity as its quality is improved.

R. E. MANSFIELD,
VALPARAISO, *July 25, 1901.* *Consul.*

ELECTRICAL TRAMWAY AND LIGHTING IN GUAYAQUIL.

The municipal council of Guayaquil has recently granted to a syndicate a charter authorizing the construction of an electrical tramway system in this city of some 50,000 inhabitants. The charter permits the use of any of the streets of the city and provides for the construction of a new race course, including a bicycle track, in the suburbs of the town. It also grants the use of electricity for lighting and power.

The concession runs for thirty-five years, at the end of which time the tram and race course will revert to the city without compensation.

At present, Guayaquil has a very poor mule-car system, despite which dividends have been superb—25 per cent annually for a number of years past.

The principal streets of the city are lit by gas of an inferior quality—some sections by kerosene lamps.

The mule-car system will probably be bought out and absorbed by the new company, which is now seeking capital in the United States. The matter is worth the attention of those interested in this line of business.

PERRY M. DE LEON,
GUAYAQUIL, *August 9, 1901.* *Consul-General.*

RUBBER CULTURE IN NICARAGUA.

In forwarding the accompanying report on rubber culture on the old Mosquito Coast, prepared by Mr. Gordon Waldron, a Canadian gentleman (received by me through our consular agent at Bluefields), I have to remark that, judging from the experience of several people who have attempted rubber culture in this immediate vicinity, there would seem to be a reasonable doubt of universal success, notwithstanding the fact that the experiments were confined to localities where the wild rubber trees had been most abundant both in number of trees and yield of rubber. In two notable instances, after the plants had obtained from four to six years' growth, the planters became discouraged with the outlook, and, cutting down the young rubber trees, planted cocoa.

There is one rubber plantation remaining in this locality in which the trees are about eight years old, but the little bleeding attempted thus far has been unsatisfactory.

Taking the consensus of opinion of those indigenous to the soil, who have had an opportunity to observe the progress of a planted tree—planted occasionally by someone as a novelty—I would say that while there is no apparent reason why india-rubber culture in certain localities of Central and South America should not be successful, it is well for those of limited resources who may have invested in rubber plantations to be prepared for disappointment, if they rely upon getting substantial returns from rubber trees of less than twelve or fifteen years' growth.

WILLIAM B. SORSBY,
SAN JUAN DEL NORTE, *July 30, 1901.* *Consul.*

RUBBER CULTURE IN NICARAGUA.

[By Mr. Gordon Waldron.]

Before 1898, there had been no rubber planting beyond a few fruitless experiments on the Atlantic coast of Nicaragua. In 1898, the work began on what may be called a large scale, and each year since the number of planters has increased. It is safe to say that in this vicinity $50,000 in gold value is now being expended yearly in growing rubber exclusively.

PLANTING.

The method of planting followed here by all who have achieved any success has been to grow rubber entirely without shade. The best practice is to fell the primeval forest early in the dry season—viz, during March and April—to lop the branches and brush closely, and when the whole has become dry enough, to fire it, with the result that everything is burnt but the trunks and large branches.

Stakes are then set out at regular intervals over the burnt field. From the 1st or 15th of May to the 15th of June, the land is planted by setting a rubber seed to each stake, or, if seed is plenty, two seeds, so that if one fails there may still be a tree. Where two plants come up at a stake, one is removed and the other is left to grow permanently.

There has not been uniformity of practice as to the distance between stakes or trees. Some have planted as far as 20 feet apart, while others advocate 5 or 6 feet, the trees to be thinned out by excessive bleeding when they may be found too close together to grow fast. Opinion seems to be fixing on 10 feet as the best distance for a permanent plantation. Land measure here is in manzanas of 100 varas square*—that is to say, an area of 10,000 yards, or 320 square yards more than 2 acres. The number of trees, therefore, which may be planted 10 feet apart each way on a manzana is 900. No further attempt is made at logging or clearing away the remains of the forest. Decay is extremely rapid. The land is not plowed or cultivated in any way, except by repeatedly cutting down the weeds and vegetation, so as to allow the foliage of the young rubber to be completely exposed to the agency of the sun.

The trees planted in 1898 are now three years old, and their growth has been enormous. A large number of trees grown from seed planted in June, 1898, measured in August, 1900, on an average, 17½ inches in circumference. A few of these trees measured in July, 1901, show an increased diameter of from 1 to 2½ inches. All the trees here spoken of are probably above the average of the whole. As to the average size of all the trees of the same age on a large area, it is enough to say that where there has been no difference of soil or attention, they have a regular and even appearance. A few planters believe that trees carefully grown and cared for will be large enough to bleed safely and profitably at five years of age. At all events, it is now established that the rubber tree can be grown to a large size in a few years.

It still remains for experience to prove the yield of the cultivated tree. That the bark of the tree is full of milk from the time it is capped by half a dozen leaves is beyond question, and why it should not yield as well as the wild tree, neither science nor ingenuity can suggest. A few months, or a year at most, will settle the question in this locality.

COST.

As to cost, opinions naturally differ. It may be asserted safely that a careful planter, working a large area, may bring his trees to five years for 50 cents each, taking account of land, administration, labor, buildings, and equipment. The chief difficulty in the way of the foreigner planting rubber in this country is likely to be his inability to realize the need and cost of cleaning. This inability may lose him his first year's outlay. He may also stumble in trying to do too much. All the first planters suffered heavy loss because they were unable to find seed, for love or money, to plant the land they had prepared. The young cultivated trees are now seed bearing, and in this locality there is now, in this respect, no trouble. In 1898, $1,000,000 would not have availed to plant successfully 200 acres. Minor troubles (which may become major, if one's temper be not serene) are the labor question and the disposition to leisure, which affects all natives.

WARNING TO INTENDING RUBBER PLANTERS.

A word of warning to the United States public, which seems to be now eagerly taking the rubber bait, may not be out of season.

Sane and modest planting enterprises promise well, but a weather eye should be kept on stock jobbers, who have out prospectuses for the development of large tracts of forest land, on which wild rubber trees of great value are said to be growing.

---

*A vara is slightly less than a yard; in practice here, the manzana is treated as 100 yards square.

This warning is based only on knowledge of this coast, and it is not pretended to make it apply beyond, though it would not be bad judgment to conclude that similar conditions prevail all over Central America.

DESTRUCTION OF THE WILD RUBBER TREES.

The bleeding of rubber began here in 1855. From the mountains to the Atlantic there existed vast numbers of rubber trees. A man could go out in the morning and come back at night with 100 pounds of rubber. The wealth and commerce of the coast was built up on rubber; but the rubber tree was practically destroyed by the ignorant and greedy hulero. Comparatively speaking, but a few scattered trees survive. These are hidden in the depths of an almost impassable forest. However valuable they might be, if accessible, neither skill nor money could make them an important asset of a rubber company.

To prepare the land upon which they grow for rubber planting and save these trees is practically impossible. The trees are pretty sure to be torn down by the felling of others, or burned in the clearing fire. It may be added, in support of this estimate of wild trees, that the huleros, or rubber cutters, prefer to work in the camps of the rubber planters for $11 per month than to seek vast wealth in the forest.

NEW BANK IN NICARAGUA.

Consul Sorsby sends from San Juan del Norte, August 5, 1901, copy of contract for a new bank in Nicaragua. It is to be established by Mr. Caligaris, with the privilege of issuing $6,000,000 in bills, guaranteed with 40 per cent coined silver. The chief provisions of the contract are as follows:

The bank is obligated to call in and redeem outstanding national bills, exchanging either with its own bills or with coined silver soles, at the option of the holders, it being understood that the amount shall not exceed $5,000,000.

At the end of each month, the bank will place the national bills redeemed at the disposition of the Minister of the Treasury, who will order their incineration, and will execute in the bank's favor an obligation registered in the general treasury. The amount of these monthly obligations will constitute a Government debt in favor of the bank, and will be liquidated as indicated below:

After the date on which the bank commences to redeem the national bills, and until the complete amortization of the debt, the Government will deliver monthly 60 per cent of the gross receipts of its customs on the Atlantic coast from duties of importation and exportation. During the first three years, 37½ per cent will go to the Government and 62½ per cent to the bank; the amount due the Government will be increased during each period of three years, until it receives 86 per cent and the bank 14 per cent. This shall be the only compensation given by the Government for interest, commission, etc., on the loan of $5,000,000 for the redemption of the national bills.

The Government shall have the right at any time to absolve the customs of the Atlantic coast by paying the bank the balance of its debt, in silver of 0.9 fineness or in bills of the bank. The cancellation of this debt shall not effect the existence of the bank. If the Government desires to cancel its debt, two months' notice must be given the bank.

The Government shall not issue bonds of any class payable with the customs duties of the Atlantic coast, nor shall it renew or concede any privilege for the importation or exportation of merchandise without the payment of the established tariff of customs dues. This tariff shall not be changed. The Government will not issue bonds, documents, or money of legal tender, but it may authorize other banks of issue, or may itself issue national moneys of 0.9 fineness, or national bills of the treasury, provided always that these are guaranteed with 40 per cent metal and are redeemable at sight for coined silver of 0.9 fineness.

The bills of the bank shall be received as current money in all of the fiscal offices of the Republic.

The bank will open an additional credit with the Government up to the amount of 1,000,000 pesos, without interest, which shall constitute a metallic reserve to the bank's credit.

The bank may establish branches in any city or community within or without the Republic, but it is obliged to establish them in Bluefields, Leon, and Granada. Its principal office shall be in Managua.

The bank shall be exempt from all contributions, taxes, or imposts, and its employees shall be exempt from all municipal service.

Mr. Caligaris is obliged to begin the operations of the bank within one year after the approval of this contract by Congress, and shall deposit the sum of $30,000 American gold with the general treasury as a guaranty.

Mr. Sorsby adds that under present conditions the gross customs receipts of the Atlantic coast of Nicaragua will probably exceed $800,000 in Nicaraguan currency per annum.

STEAM NAVIGATION ON THE RIVERS OF TABASCO.

Under date of August 19, 1901, Consul Canada, of Veracruz, transmits the following abstract of a contract entered into between the Mexican Government and Mr. Henry D. Bushnel, of Frontera, to establish regular steam navigation on the rivers of the State of Tabasco. This information, in the opinion of the consul, will be of interest to our manufacturers dealing in supplies necessary for shipbuilding, as well as those for the several plantation companies located in the State of Tabasco and northern Chiapas.

The steamers to be constructed and employed must possess all modern improvements and appliances used in such traffic. The speed of these steamers must not be less than 8 knots per hour for all vessels whose draft is 5 feet, and for those drawing less, 6 knots per hour; and they must be provided with all possible accommodations for passengers.

The river system to which this contract has reference is as follows: The River Grijalba and its tributaries; the River Chilapa and its tributary, the River Tulija, and the tributary of the latter, the River Michol; the River Ixtacomitan and its tributary, the River Pichucalco, and tributaries of the latter (the rivers De la Sierra and Teapa); the River Uzumacinta, including the arm which flows into the

Laguna (Lake) the Terminos, called the River Palizada, and the tributaries of the latter (the rivers San Pedro and Chacamax); the River Gonzales as far as the bar of Chiltepec; the creek and lake of Mecoacan; the River Seco and its connection with the River Mexcalapan.

Frontera is to be the home port for the steamers of this fleet, whence the following lines are to be established: One to San Juan Bautista and Tenosique, touching at least at the intermediate points of Jonuta, Montecristo, and Balanca; one to Laguna del Carmen, touching at the intermediate points of Jonuta and Palizada; one to El Salto or Michol, on the River Tulija, touching at Tepetitan; one to El Ingenio Poposa, on the River De la Sierra, touching at the intermediate points of Las Raices, Cacaos, Aztapa Jahuacapa, Jalapa Tacotalpa, El Paso de Casauyapan, on the River Pichucalco; one to Ermita, on the River Teapa; and one departing from Paso de Tierra Colorada or Boca Nueva by way of Chiltepec, Gonzales, Paraiso, Cardenas, and Huimaguill.

Within twenty'days from the date of contract, one large steamer must be placed on the line from Frontera to San Juan Bautista and one small one for provisional service from Frontera to El Salto or Boca de Michol; within one year, another large and two small steamers on such lines as are approved by the Department of Communication and Public Works; and within two years, all the steamers necessary for the service of the lines mentioned above. Those steamers referred to in the terms of one and two years must be constructed in the shipyard to be established by the concessionary, or the company he may organize, in the port of Frontera.

The concessionary, or the company, shall have the same franchise and exemption conceded, or to be conceded, to other river navigation companies. The legal residence of the company shall be Frontera, Tabasco, but for the convenience of the Federal Government, it must have an attorney resident in the City of Mexico. The company is to have an exclusively Mexican character, and foreign shareholders shall not have a right to make any claim except in Mexican courts and under Mexican laws.

HATS IN MEXICO.

The following extracts are from a letter to a New York firm* from Consul Kindrick, of Ciudad Juarez, dated August 26, 1901:

The trade in hats in this consular district is necessarily limited. This city, with a population of about 6,000 persons, is the largest town in the district. Outside of this place are many small villages, ranch headquarters, and mining camps. The State of Chihuahua, with a population of 265,000, contains a great many Americans and foreigners, all of whom wear what is termed here "American hats." The better class of Mexicans also wear the American style of hats. The peons, or common classes, still wear, to a great extent, the high-crowned Mexican felt and straw hats. However, they are gradually giving up their characteristic head gear for the American styles, and in time will scarcely wear the Mexican hats at all. The same may be stated of the entire Republic of Mexico. The fact that a middle class of people is rapidly developing will in the near future create a great demand for American-made hats. I do not believe that European competition will prove serious, on account of freight rates and the superior styles in which United States hats are made. Our shoes and ready-made clothing are preferred to European productions, and the same is true of hats.

---

*ADVANCE SHEETS have been sent the manager.

The leading merchants of Chihuahua are Ketelsen & Degetau. This firm distributes goods throughout this section. They do not handle hats exclusively—none of the merchants in this part of Mexico do that—but they can place hats in every nook and corner of northern Mexico. Ketelsen & Degetau are now buying hats in Germany, but not in very great quantities.

Picard Brothers and Levy Brothers about control the local trade of Ciudad Juarez.

Texas styles of black and tan-colored hats and gray and black alpine styles are favorites with Mexicans and Americans in Mexico. The black derby is also worn to some extent.

The tariff duty on United States hats ranges from 20 cents to $1 (9.4 cents to 47.3 cents gold) each. Hats of felt and their imitations in patterns, without trimmings, are dutiable at 50 cents (23.6 cents) each; hats of all kinds, not specified, trimmed, with or without ornaments, $1 (47.3 cents) each; hats not specified, in patterns not trimmed, 25 cents (11.8 cents) each; hats of feather grass, cuttings, prepared cotton or paper paste, in patterns or finished, with or without ornaments, 20 cents (9.4 cents) each. Hats or helmets made for miners are admitted free of duty.

A Mexican dollar is at present worth 47.3 cents in United States currency.

NOTES.

Sugar as Food.—Vice-Consul-General Murphy, under date of Frankfort, August 15, 1901, referring to a previous report on "Sugar as food," printed in CONSULAR REPORTS No. 238, for July, 1900,* transmits the following extract from the Frankfurter Journal, of August 12:

Two scientists have recently reached very different conclusions in regard to the alimentary value of sugar. In recent years, experts have shown an inclination to recommend, with great warmth, sugar as an article of food. Now, however, an entirely different view of the matter is taken by Dr. Von Bunge in an article published in the Journal for Biology, under the title "The increasing consumption of sugar and its danger." This investigator concludes, from the well-known fact that children who eat sugar are pale and have bad teeth, that sugar, owing to the fact that it does not contain enough iron and lime, and that it is substituted for other food containing these materials, has an injurious effect and its use should not be recommended. For this reason, Dr. Von Bunge advocates an increase of the sugar tax.

Another important physiologist, Professor Lepine, in Lyons, takes a diametrically opposite position, and shows from Dr. Bunge's own tables that there is very little lime and iron in any of our food. His conclusion is that an increased consumption of sugar could not, for the reasons advanced by Dr. Von Bunge, have a deleterious effect. He, moreover, calls attention to the fact that in France, where, owing to its high price, sugar is really an article of luxury, and where accordingly only one-third as much per head of population is used as in England, the people in general do not seem to enjoy better health than the English and Americans. The only bad result of the large consumption of sugar in these countries appears to be an increased demand for the services of dentists, but even in this respect the English and Americans are probably little worse off than other civilized nations. Professor Lepine declares that, from the standpoint of a hygienist, he would rejoice to see his fellow-countrymen increase their consumption of sugar three or four fold, and that he would not have the slightest anxiety in regard to the consequences.

German Duty on Emery Wheels.—Consul-General Mason writes from Berlin, August 16, 1901:

It will interest certain exporters of machine-shop appliances from the United States to know that a recent decision of the imperial German customs office reclassifies emery wheels, and doubles the duty hitherto levied on that class of imports. German-made emery wheels are usually manufactured of pure corundum, the hole which is pierced through the center of the disk fitting round the shaft or spindle without any metallic support. As a consequence, it happens that such a wheel sometimes works loose on the shaft as a result of disintegration from vibration. To prevent this, American manufacturers of emery wheels are accustomed to line, or "bush," the central orifice with Babbitt metal, iron, or some other metal that will give a firm seat to the shaft. Hitherto these "bushings" have been generally covered with a label bearing the name of the maker, size, number, etc., and the metallic portion thereby concealed. Recently, however, this has been discovered, with the result that emery wheels so provided with bushings are classified for duty as metal in combination with corundum (Schmirgel), which increases the rate from 3 marks to 6 marks ($1.42) per 100 kilograms. This rate will not seriously affect the trade in the smaller sizes of wheels, but as they are made and used in all diameters up to 3 feet, the increased duty will have a tangible effect on the net cost of the larger sizes.

---

*ADVANCE SHEETS No. 719.

German Grain Trade in 1901.—Under date of August 9, 1901, Ambassador White, of Berlin, reports that recently published statistics with regard to German commerce show that the value of both exports and imports for the first half of the calendar year 1901 is less than it was for a corresponding period last year. For the month of June, however, the value of the exports is more than it was last year, and although the amount of coal imported during that month was 196,679 tons less than in 1900, the amount of coal exported was 128,686 tons more. The following table shows the volume of Germany's grain trade during the first half of 1901:

Description.	Imports.	Exports.
	Tons.	*Tons.*
Wheat	805,379	140,473
Rye	370,531	54,056
Oats	247,883	89,837
Barley	337,582	8,699
Maize	699,837	5,468
Wheat flour	17,557	16,777
Rye flour	970	24,895

Labor Conditions in Germany.—Under date of August 21, 1901, Consul-General Hughes, of Coburg, reports:

The Berlin semimonthly periodical Der Arbeitsmarkt (The Labor Market) furnishes facts and figures which show that there is a continuous scarcity of work in Germany. From the mining district and from the centers of the iron-working and machine-making regions, short hours, dismissals of hands, and the cutting down of wages are reported. In the month of July, 1900, when the depression of business in general was felt for the first time on the labor market, the decrease of employed laborers amounted to only 3 per cent, while in July of this year their already much reduced number has decreased by a further 5 per cent. There is a marked increase in the number of men applying for work at the public labor offices. In July, 1900, for every 100 open places 122.2 applicants were counted; this year their number has run up to 160.9. The labor offices report an increased rush for places, particularly by metal workers and those employed in the building trade (Bauarbeiter). The latter may hope for an improvement, at least in some places, at the beginning of the autumnal building season, but for the iron workers the outlook is gloomy indeed.

Cooperative Workshops in Germany.—Consul-General Guenther, of Frankfort, transmits the following:

While large manufacturing establishments of shoes in Germany are combining, independent shoemakers are seeking to obtain the advantages of production on a large scale without giving up their individuality. A meeting was recently held in this city to discuss the advisability of establishing a central workshop for the local shoe concerns, and a committee was appointed to devise a plan. It is proposed to start a factory with the most modern machinery, where every member can have his work done. This is said to be the first attempt in Germany at a cooperative factory. It is stated that work will be pushed, and that the provincial government will materially assist the new enterprise, but in what manner is not divulged so far.

Briquettes from Garbage.—The following has been received from Consul Warner, of Leipzig:

One problem which municipal authorities of all countries have been seeking to solve is how to best dispose of the city's garbage. A process has been discovered in France by which garbage is converted into briquettes. It consists of mincing the refuse from abattoirs, fish markets, etc., straw, paper, and the like, and adding tar and naphthalene. The whole mass is then mixed in a kneading apparatus, dried, and pressed into briquettes. The director of the Paris Municipal Laboratory says:

> These briquettes have a slight odor of gas, burn brightly, and engender heat slowly. With a more highly perfected method of manufacture, they will engender less ash, and the heat-producing qualities will be about the same as those of common coal. They will also possess the advantage of burning slowly and developing no smoke.

If this report is true, municipalities, instead of having to cremate their garbage—a method which can not be said to be entirely successful—will receive money therefor.

Congress of Insurance Physicians at Amsterdam.—The Department has received a note from the Netherlands legation, dated New London, August 20, 1901, to the effect that the Second International Congress of Physicians of Insurance Cômpanies will be held in Amsterdam September 23–25, 1901. The United States is invited to send official delegates. The programme gives the following subjects for discussion:

(1) Plan of medical formulary; report of the commission on the universal medical formulary; (2) albuminurics from a life-insurance point of view; (3) admissibility of glycosurics; (4) admissibility of risks of bad character; (5) inflammation of middle ear (otite moyenne), considered as regards life insurance; (6) limits of admissibility of risks; (7) syphilis and life insurance; (8) anomalies and diseases of the skin as regards life insurance; (9) importance of the examination of reflexes as regards life insurance; (10) tremors, considered with regard to life insurance; (11) woman, as regards life insurance; (12) admissibility of persons who have resided in warm climates; (13) appendicitis, considered with regard to life insurance; (14) hernia, as affecting life insurance; (15) ocular affections, with regard to life insurance; (16) anatomical punctures, as regards accident insurance.

Assessment is fixed at 20 francs ($3.86).

Quinine Sale in Batavia.—Consul Rairden reports from Batavia, August 3, 1901:

The thirteenth public auction of quinine was held on the 24th ultimo, and the following prices were realized:

Editio II, consisting of about 2,721.6 kilograms (6,000 pounds) sulphate of quinine, sold at 22.05 florins ($8.86), gradually falling to 21.20 florins ($8.52), when a number of lots were bid in, as the latter price was considerably below the limit—21.50 florins ($8.64).

Editio III, consisting of some 750 kilograms (1,653 pounds) sulphate of quinine, packing and weight at purchaser's option (weight not less than 22.68 and not more than 25 kilograms), sold at 22.05 florins ($8.86), and fell to 21.25 florins ($8.54) per kilogram (2.2046 pounds), this being below the limit.

Some forty-three lots of Editio II and Editio III were not sold, on account of the low bids.

The average price for the lots sold—21.52 florins ($8.65) per kilogram—is equal to the unit price of 0.085 florin (3.4 cents) for the bark at Amsterdam.

This sale has been very disappointing to the manufacturers.

The Pekin Syndicate.—Consul Hill, of Amsterdam, under date of August 22, 1901, says that, according to information from London, the Pekin Syndicate is the largest British commercial project in China. The company was organized in March, 1897, to exploit the mineral resources of the country, build railways, etc. In 1898, it was granted the exclusive right for a period of sixty years to work coal and iron mines and petroleum deposits in certain districts of Shansi and that part of Honan lying north of the Yellow River, consisting altogether of about 30,000 square miles. Certain railroad privileges are also enjoyed by the company. Its authorized capital is £1,340,000 ($6,521,110). It is now occupied in opening up anthracite mines in the Chinghwa coal field, in North Honan, and bringing them into communication with railways and water navigation. The future of this company, adds Mr. Hill, will be watched with great interest. China keeps up the service of her national debt punctually, the Government having recently paid the interest on the 6 per cent £3,000,000 ($14,599,500) loan negotiated in 1896, which is secured by the customs receipts at the treaty ports. With the "open-door" policy established these receipts should increase.

The Yangtze Floods.—Under date of Shanghai, July 25, 1901, Consul-General Goodnow reports that the most disastrous floods are prevailing in the valley of the Yangtze River. He understands that they are the worst known by Europeans in that valley. All the towns in the neighborhood of Wuhu and Kiukiang are to a large extent under water. The farms, especially in the rice-growing region about Wuhu, are so completely flooded that there is no hope for the crop this year. In addition to this, thousands of people have been drowned and unknown numbers rendered homeless by the overflow. The stoppage of trade is very serious. Not only is the local trade paralyzed where the flood exists, but the river is so far beyond its banks that navigation is difficult and dangerous. It is reported that five large river steamers plying between Shanghai and Hankau are out in the fields in different places. The destruction of the crops in vast regions, and particularly the probable destruction of the rice crop in the region of Wuhu—the great rice-exporting center—will probably add famine in the Yangtze Valley to the other difficulties besetting the Empire.

Russian Administration in Niuchwang.—Consul Miller transmits from Niuchwang, July 30, 1901, translations of edicts posted by the Russian civil administration in charge of that city, one of which gives notice to the workmen in oil factories that the Russian administrator has received a petition from the guild stating that the workmen had stopped work for three days, scheming for an increase in their wages. The administrator adds:

> I have found out that wages have been increased in the last three years, once every year. What caused this stoppage of work? By the law of Russia, labor leaders who stop work or trading should receive the same punishment as rebels, and followers should also be punished strictly.
>
> I have therefore arrested and punished the leaders, and post this notice to inform you that all should begin work as usual, not later than to-morrow.
>
> Anyone disobeying this will be immediately arrested and expelled from this port.

The other edict reads:

> Notice is hereby given to all the people and merchants of Niuchwang: Since this port is administered by the Power of Russia, all cases must be reported before me for judgment. Some merchants do not report the cases to me, but ask other foreigners, merchants, and missionaries of other nations. It should be understood that merchants care only for commercial interests, foreigners have their own business, and missionaries are especially for preaching; they can not meddle with other business, especially that under the administration of Russia.
>
> I therefore inform you that hereafter you should come to me with all cases, whether petitions to the judge or the police station. You are not allowed to confer with foreigners, merchants, or missionaries.
>
> Severe punishment will be given to those who disobey me.
>
> A. OSTROVERKHOW,
> *Russian Civil Administrator, Niuchwang*

Japanese-Chinese Commercial Relations.—Under date of August 1, 1901, Consul Lyon, of Hiogo, Japan, transmits a clipping, taken from the Japan Times, which shows that at a meeting of the Foreign Trade Association, composed of leading Japanese business men of Kobé and Osaka, a resolution was passed that the Japanese Government be memorialized to set apart a portion of its Chinese indemnity fund, for the purpose of facilitating commercial transactions between Japan and China. It was thought advisable to create a bank for Japanese and Chinese merchants, so that the peoples of the two countries might be brought into a closer touch.

The resolution stated that of the gross capital of 30,000,000 yen ($14,940,000), the Government should be petitioned to lend at least 10,000,000 yen ($4,980,000), at an interest of 2 per cent, out of the indemnity to be obtained from China; and that the bank thus created should be entitled to issue, within a certain proper limit, gold and silver convertible notes. The bank should also be made to exploit the resources of the interior of China. The organization of the establishment should be created under a special patent by the Government, and should be of a joint-stock formation, with the capital subscribed by the peoples of the two countries.

Iron and Steel Manufacture in New South Wales.—Consul-General Bray, of Melbourne, under date of July 29, 1901, reports that the State treasurer of New South Wales, at a public meeting on July 27, said:

> I hope the time is fast approaching when engines and steel rails will be manufactured in the State, giving employment to thousands of Government employees. To bring this about, a gigantic expenditure would be required at the start, and it might be advisable for the Government to give encouragement to a company who would be willing to expend nearly £1,000,000 ($5,000,000) in laying down a plant. If a contract, extending over two or three years, for 200,000 or 300,000 tons of steel rails would lead to the establishment of a new industry, and its being carried on until the Government would be prepared to take up the industry, I think the interests of the State would be well served.

Commenting upon these remarks, Consul-General Bray says that the existence of vast deposits of iron ore in the State of New South Wales has been proved, as well as in other States of Australia, and it is undoubtedly only a question of time when the manufacture of iron and steel will be established there on a large scale, with consequent effect on the present imports from the United States.

Frozen-Meat Exports of New Zealand.—Consul-General Bray, of Melbourne, under date of August 4, 1901, transmits the following statement of frozen meat exported from the colony of New Zealand for the years ended June 30, 1901 and 1900:

Description.	1899–1900.	1900–1901.
	Pounds.	*Pounds.*
Mutton	128,822,167	97,194,054
Lamb	54,160,014	51,257,841
Beef	31,854,651	29,728,028

As will be seen, mutton decreased by 31,628,113 pounds, lamb by 2,902,173 pounds, and beef by 2,126,623 pounds; and as no increase has occurred in the exports of frozen meats from New Zealand during the past two or three years, the impression prevails that the productiveness of the colony in that direction has found its limits.

Railway in German Southwest Africa.—Consul-General Hughes, of Coburg, reports, under date of August 28, 1901, that a railway to connect Iwakopmund and Windhoek, in German Southwest Africa, is in course of construction. Last year, 194 kilometers

(120 miles), from Iwakopmund to Karibib, were completed and traffic was opened on that portion a few months ago. For the fiscal year 1901, 3,000,000 marks ($714,000) have been appropriated for continuing the line toward Windhoek. After the whole line is completed, it is planned that two freight trains shall be run daily and two passenger trains weekly. Twenty-eight double engines and four single engines will be provided for that purpose; the latter are principally to help the trains up steep grades. In the construction of the passenger cars, particular care will be taken to offer every possible comfort and protection to travelers, who otherwise would have to suffer severely in the hot climate of that region. It is proposed that seats shall be provided which by turning can be converted into beds. The cars will be protected by sunshades, dark glass, and window screens. Stations will be established at Iwakopmund, Windhoek, Okahandja, and Karibib. The last, being well provided with good water, will be the central and repair station of the new line.

Rubber in French Africa.—Mr. Thieriot, chargé at Lisbon, sends, under date of July 18, 1901, translation of an article in a local journal, from which the following extract is taken:

> Explorations in connection with the production of rubber began in Madagascar in 1851, and have of late years increased to a notable extent. M. Jamelle recently called attention to the "piralahy," a new shrub of the genus *Landolphia*, which is found in the forests of Bueni, in Majunga, in Andriba, and in the valley of Betisbooka. In the French Kongo, also, a few apocyneous plants of the genus *Landolphia* are met with, which yield a quantity of india rubber. The amount produced is estimated at 500 tons per annum. The whole country, says M. Savorgnan, is literally covered with rubber trees. The yield in Senegal is small at present. The aborigines are just beginning to bring into the market a clear substance called kurussa, whose commercial value closely approximates that of the rubber of Para.

Rubber Culture in Perak.—The following has been received from Consul-General Guenther, of Frankfort:

The De Indische Mercuur states that the director of the Government plantations has issued a report on the results of cultivation in the district of Perak, on the Malayan Peninsula. By moderate tapping of 82 Para rubber trees, averaging 14 years of age, 327 pounds of first-class and 33 pounds of second-class rubber were produced. The first class, equal to the best Para rubber, was sold in London at 3s. 10d. (93 cents); the second class, at 2s. 6d. (61 cents) per pound. Each tree yielded about 2 pounds of rubber. The results were said to be encouraging for planting rubber trees where the soil and the climate were favorable.

Machine for Extracting Maguey Fiber.—Consul Kindrick sends from Ciudad Juarez, August 9, 1901, a clipping from the Mexico Herald, as follows:

> Señor Prieto, a Spaniard, who invented machines used successfully for extracting the fiber of the henequen plant or sisal grass in Yucatan, has just perfected a machine which promises to solve the long-pending problem of getting out the fiber of the maguey plant, which yields pulque, and grows on the Mexican table-lands in enormous quantities.
>
> Preliminary trials of this machine have been remarkably satisfactory, and specimens of the fiber sent to Europe are pronounced equal to henequen. German importers say that all the maguey fiber Mexico can produce will be taken at good prices. This means the building up of a large fiber export trade, and the utilization of a plant which, after yielding pulque, has had little or no commercial value. After the leaves have been stripped of the fiber, the residue makes an excellent food for cattle.

An Immigration Scheme in Honduras.—Consul Johnston reports from Utilla, August 20, 1901:

I note in a dispatch, dated New Orleans, August 8, the following announcement:

> James Wood, of Chicago, who went to Honduras as the representative of a Chicago syndicate, has secured from the Government 64,000 acres of land on condition of settling it with Americans. * * *

It happened when the paper containing this dispatch arrived here that President Sierra was visiting the island, and, when shown the article, stated it was untrue that such concession had been made, and expressed much surprise. Mr. Wood claims that his company has made arrangements with a number of Ohio and Illinois farmers to come here, and that the first party of emigrants is expected to leave in two months. I believe, from what I can learn, that the whole business is speculative.

Mexican-United States Steamship Concession.—Under date of August 22, 1901, Consul Kindrick, of Ciudad Juarez, transmits the following extract from the Daily Herald (City of Mexico), of August 19, giving the terms of a concession granted for a new steamship line to run between Mexico and United States ports:

THE NEW STEAMSHIP LINE.

> A concession, of which the following are the chief clauses, has recently been granted by the Department of Communications and Public Works: The Atlantic and Mexican Gulf Steamship Company obliges itself to conduct a service of steam navigation between Mobile, Pensacola, or some other Atlantic port of the United States and one or more Mexican Gulf ports, its steamers making at least two round trips every month. When the service or traffic demands it, the company may,

after presentation of the sailing schedule to the Department of Communications and Public Works for its approval, increase the number of trips, steamers, and ports of call; with the understanding that the additional steamers must be the company's property or chartered by it for a period of at least six months.

Iron Sands of Guadeloupe.—Consul Aymé, of Guadeloupe, under date of August 13, 1901, reports that, according to a decree recently published in the Journal Officiel, a concession for the exploitation of the iron sands of the colony has been granted to Mr. N. de La Roncière, merchant and president of the chamber of commerce of Pointe a Pitre. The consul adds:

These sands are found at many places along the coast in vast beds. The quantity in sight and immediately available is estimated at some 200,000 tons. It is a clear magnetic iron sand, free from impurities, and yielding about 67 per cent of iron. This iron is said to give a superior quality of steel. This consulate has been in receipt of several letters asking for particulars regarding these iron-sand deposits, but it has heretofore been the policy of the government of the colony to forbid the working of them. Practically unlimited quantities can be furnished, and vessels can be loaded very speedily and safely. All persons interested should write, either in English or French, to Mr. Numa de La Roncière, Pointe a Pitre, Guadeloupe, or to the American Exchange, same city.

Notes from Nicaragua.—The following has been received from Consular Agent Manning, of Matagalpa:

I would call the attention of our exporters to certain things that have come under my observation. The principal merchants here are European, but the large American colony has demanded that they import certain United States goods, wishing better quality than is usual in European articles of the same class. To satisfy this demand, one of the heaviest importers here sent a trial order to a house in San Francisco. Imagine his surprise to find that a number of the articles shipped him bore such mottoes as "Made in Germany," "Made in France," "All English labor employed," etc. This importer is an Englishman, and imports everything he can from England and many things from Germany and France direct, and these same articles would have come to him in this way, less American duties and other charges, therefore much more cheaply. Among the goods were corkscrews, screw-drivers, pocketknives, scissors, etc. I think our wholesalers should understand that when orders are sent from Spanish America, it is with a view to securing United States articles. If Nicaragua duties on ready-made clothing and boots and shoes were reduced, a new trade would be opened with this country, where such things are absolutely not to be had.

Clay Flagstones for South America.—Consul-General Hughes reports from Coburg, August 29, 1901, that according to the German press the South American republics have of late imported large quantities of clay flagstones for flooring purposes. At one time the French makers held the market, but England now controls it, delivering a much lighter and stronger flagstone, which does not have to pay as much freight or duty as the French. The thickness of these flagstones, it is said, should not be more than 1 centimeter (0.39 inch). The consul-general thinks that this article should be manufactured in the United States and delivered in South America more cheaply than from Europe.

Canadian Sales of Horses.—Consul Burke sends from St. Thomas, August 23, 1901, the following statement of recent purchases of horses by the British Government in Northwest Canada, with the prices paid for each class of horse. Mr. Burke thinks the information may be of interest to breeders in the United States.

Description.	Horses bought.	Price paid.	
		Per head.	Total.
Mounted-infantry cobs	377	$85	$32,045
Cavalry horses	255	100	25,500
Royal artillery horses	146	100	14,600
Total	778		72,145

Petroleum in New Brunswick.—The following information relative to the discovery of petroleum in New Brunswick was transmitted by Commercial Agent Beutelspacher, of Moncton, under date of August 15, 1901:

For some years past, different parties have been prospecting for petroleum in this Province. Very little success attended their efforts, however, until the present year, when a company operating at Memramcook, about 14 miles distant from Moncton, struck a well which it is thought will yield in paying quantities. It is producing from eight to ten barrels of oil per day. There is also a good flow of gas. The 0.860 specific gravity oil has been subjected to fractional distillation, according to the Engler method, and was found to yield a very high percentage of good burning oil. The company has placed three more boring rigs in the field, and is extending its operations rapidly.

Belgian Glass Workers for the United States.—Under date of August 26, 1901, Consul Roosevelt, of Brussels, writes that on Saturday, August 24, two hundred and forty glass workers from Charleroi, Jumet, Lodelinsart, and Courcelles, in his consular district, left Belgium for Muncie, Indiana. The glass union, as well as the president, Edmond Gilles, did all in their power to dissuade the men from expatriating themselves. Edmond Gilles even wrote an article, which was published in the Journal of Charleroi, stating that the trades union in the United States would prevent the Belgian workmen securing employment in that country. All the workmen who left Belgium on August 24 are men who had returned to Belgium with the hope of never again leaving it. The hope, however, of finding work in the United States at a more remunerative wage than is paid in Belgium overcame all other considerations.

Consul Roosevelt also reports that engagements for Japan are easily made, and the wages promised are paid when the men embark.

Demand for Farming Machinery in the Netherlands.—Consul Hill reports from Amsterdam, July 31, 1901, that as a result of the increased prosperity among the dairy farmers, there has been a considerable demand in the Netherlands during the last three years for mowers, reapers, binders, and rakes. The difficulty in hiring farm labor at the very low wages offered, he adds, has also had the effect of increasing the purchases of agricultural machines. American plows, continues the consul, do not meet with favor, German plows being preferred, while horsepower thrashers, the only kind in use, are imported principally from England. The consul suggests the southern part of the Netherlands as a possible market for fruit driers and fruit machinery.

Matches in the Netherlands.—Consul Hill, of Amsterdam, August 1, 1901, says:

There is a good chance for the introduction of American matches into the Netherlands. At present, the cheaper grades are imported from Belgium. A better quality, however, is furnished by Sweden. The wholesale prices are as follows: White wood with brown heads, 36 florins ($14.47) per case; white wood with red heads, 38 florins ($15.28) per case; red wood with yellow heads, 45 florins ($18.09) per case. A case consists of 20 packages, each package containing 50 smaller ones of 10 boxes each. Each box is 2⅛ by 1½ by ¾ inches, and contains about 75 matches. The import duty is 5 per cent ad valorem.

Spanish Demand for Artificial Manures.—Consul-General Hughes, of Coburg, under date of August 1, 1901, says that, according to newspaper reports, the development of beet production in Spain has created such a demand for artificial manures that Spanish dealers find it very difficult to fill contracts. Valencia alone imports from England 50,000 tons of sulphate of ammonia, 8,000 tons of superphosphate, and 20,000 tons of dark-gray saltpeter. Sulphates of ammonia are mostly in demand; they usually contain from 24 to 25 per cent of ammonia, or 20 to 21 per cent of nitrogenous matter. A large increase in the demand for artificial manure from the Canary Islands is also noted, England furnishing the greater part. Sulphate of ammonia, superphosphate, and nitrate of soda are principally imported into these islands. Mr. Hughes thinks that American exporters might secure the greater part of this market, if they would send people to look after it.

Gas-Motor Manufacture in Spain.—Under date of August 24, 1901, Consul Ridgely, of Malaga, transmits the following translation of an extract from the Revista Minera Metalurgica y de Ingeniera, of Madrid, the most reliable journal of its class in Spain, which he thinks should interest American manufacturers:

> An industry which should be established in Spain is that of manufacturing gas motors. Those who might desire to inaugurate such an industry should first be careful to decide which is the best type of gas motor to be manufactured. We believe at this time that the Koerting motor is the best, because of its simplicity and lightness. In the course of time it may be advisable to try the Diesel type, but for the moment we believe the Koerting motor should be our model for manufacture in Spain.

Archæological Congress in Athens.—Consul Jackson, of Patras, under date of August 24, 1901, reports that the press of Athens has made public the decisions of the international archæological subcommittee, which met August 22. The date for the general archæological congress was fixed for April, 1903, at Athens, this decision probably being influenced by the current belief that the Olympian games will also be held there at about the same time. The congress will convene for fifteen days, the first five of which will be given to discussions in convention, and the last ten to excursions among the various places of archæological interest in Greece. The themes for general discussion have not yet been made public. Invitations will be extended to the various universities and colleges, and to the heads of governments.

Cables and Telephones in Greece.—Consul Jackson, of Patras, under date of August 23, 1901, reports that the Eastern Telegraph and Cable Company is constructing a third cable from Zante via Patras and the Corinthian Gulf to Syra, the object being to offer a more direct wire communication between Europe and India and Australia. The two old cables will be devoted principally to local needs, the volume of business having greatly delayed rapid communication and justified the laying of the third. There is, further, under serious consideration the construction of a telephone line between Patras and Athens. While the project, says the consul, has so far taken no definite form, the business done between these two points will undoubtedly justify the undertaking. The amount of materials necessary for the equipment of such a line will be sufficiently large to merit the close consideration of American manufacturers. As soon as facts with regard to the proposed line appear, they will be furnished by the consul to those who may be interested.

American vs. Roumanian Petroleum in Greece.—Consul Jackson writes from Patras, August 24, 1901, that the Roumanian consul at Athens has expressed to his Government the opinion that Roumanian petroleum could find a market in Greece, and, by a reduction in the price, compete with the American product. Consul Jackson says that while it would be somewhat difficult to supplant the American petroleum, which practically controls the Greek market, a little precaution on the part of exporters would hardly come amiss.

South Australian Apples in Vienna.—Consul-General Guenther writes from Frankfort that according to German papers, South Australian apples are now sold in the Vienna market at from 5 cents to 10 cents each; choice ones even higher. The apples are juicy and of fine taste; they are packed and shipped in small, long boxes containing each 100 apples. Each apple is wrapped in tissue paper, and they are packed in wood wool (excelsior) and the leaves of corn husks. They stand the sea transportation well and also the transport by rail from Hamburg to Vienna, which takes from five to six days. The apples are well-selected ones, and show no spots or damage from pressure.

Drying Wood by Electricity in Austria.—Consul Mahin, of Reichenberg, August 8, 1901, sends the following description of a new method of quickly preparing wood for building and manufacturing purposes, taken from a local technical journal:

The green wood is placed in a large wooden trough, whose bottom is covered with a lead plate, which is connected with the positive pole of an electric battery. Covering the wood is a second lead plate, which forms the negative pole. The wood is then subjected to a bath in a solution composed of 10 per cent rosin and 75 per cent soda. Under the influence of the electric current, the sap is drawn out of the wood and rises to the surface, the solution being absorbed by the wood. The operation requires from five to eight hours. The wood is then allowed to dry for about two weeks, when it is ready for use; or the drying can be done artificially in a much shorter time.

Electric-Railway Project at Carlsbad.—Under date of August 17, 1901, Consul Mahin, of Reichenberg, reports that an electric street-railway company has been formed at Carlsbad, and negotiations with supply and construction firms are invited. Carlsbad is as yet devoid of any kind of public conveyance, except cabs and hotel omnibuses, though it has a permanent population of 15,000, to which are added between April and October of every year 40,000 or more sojourners. The city is spread out, along the Tepl River, a distance of several miles, from the railway station to the Posthof, between which points street-car communication would prove a great boon to the permanent and sojourning population. Branch lines on side streets leading to the villas and hotels on the adjacent heights would also be practicable. Communications addressed to the Elektrische Strassenbahngesellschaft, Carlsbad, Bohemia, would reach the promoters of this project.

The Halle-Merseburg Electric Railroad.—Consul Warner reports from Leipzig, July 27, 1901, that work has been begun on the electric railroad between Halle and Merseburg, permission for the construction of which was granted by the Prussian Government several months ago. It is expected that the Halle-Ammendorf section will be completed before the beginning of winter. The total length will be 10 miles. Power will be obtained from the River Saale. The consul also states that the projected electric railroad between Leipzig and Halle has been abandoned, the Prussian and Saxon governments having refused to grant the necessary franchises.

American Coal in Europe.—Deputy Consul-General Hanauer reports from Frankfort, September 8, 1901:

In consequence of the low rates for ocean freight (4s., or 96 cents, per ton on grain from United States ports to Europe), Hamburg steamship lines, it is said, will import American coal. According to Hamburg papers, a shipment of American coke is now bound for that port. A Russian journal calls attention to the fact that a steamship laden with American coal has arrived at Cronstadt, which is all the more noteworthy as coal imports from England and Germany have declined considerably of late.

American Paving Wood in England.—Under date of September 4, 1901, Consul Phillips, of Cardiff, says:

The Cardiff public works committee has recently decided to recommend a trial of 1,500 loads of Alcott's "deadened redwood gum" from New Orleans, for paving. The price per load, delivered at the corporation depot, is £6 10s. ($31.60), or 19s. 3d. ($4.68) cheaper than is asked for McDowell's "jarrah wood." Jarrah blocks and British oak in segments are the materials with which Cardiff roads have been paved. Red-gum wood is extensively and successfully used in London.

Census of Germany.—Consul Monaghan reports from Chemnitz, August 16, 1901:

The German census, which started December 1, 1900, and has just been finished, gives some interesting facts. There are 442 cities with a population between 10,000 and 100,000 each. In 1816 the German Empire had 24,833,000 inhabitants; in 1855, 36,114,000; and in 1900, 56,345,000. In the year 1816, Prussia had 13,709,000 inhabitants; in 1855, 21,320,000; and in 1900, 34,463,000. The enormous increase in the large cities of Germany[*] is said to be due to the retrograde movement in agriculture, which has driven people from the country.

French Inquiries re Petroleum as Fuel.—Consul Jackson, of La Rochelle, under date of September 3, 1901, reports that a prominent railway official, who is anxious to try petroleum as fuel for locomotives, desires to obtain (1) practical information about Texas and other oil, such as analysis, results of trial, price, etc.; (2) information about American locomotives which are constructed to burn petroleum. Data, says the consul, may be sent to his office, and will receive careful attention from the railroad officials interested.

---

[*] See "Growth of German cities," a report by Consul-General Mason, of Berlin, in ADVANCE SHEETS No. 936 (CONSULAR REPORTS No. 246).

Grape and Raisin Trade.—Consul Covert reports from Lyons, August 30, 1901:

A recent publication asserts that raisins and grapes were imported in 1900 into the countries hereunder mentioned as follows:

Country.	Grapes.	Raisins.
Spain	$26,517.03	$103,281.72
Great Britain	18,126.99	
Denmark	4,008.76	163,172.65
Germany		12,238.95
France		2,106.12

American Rails for Spain.—Consul Ridgely forwards from Malaga, August 29, 1901, a clipping from the Mining Review, an important industrial journal of Spain, noting that a steamer which recently took a cargo of iron ore to the United States has just returned with a cargo of steel rails. The paper deplores the lack of steel works in Spain, that would render such imports unnecessary.

The Metric System.—Consul Haynes, of Rouen, under date of August 26, 1901, says that the metric system is to-day compulsory in twenty countries, representing more than 300,000,000 inhabitants—Germany, Austria-Hungary, Belgium, Spain, France, Greece, Italy, Netherlands, Portugal, Roumania, Servia, Norway, Sweden, Switzerland, Argentine Republic, Brazil, Chile, Mexico, Peru, and Venezuela—and advises American exporters in dealing with any of these countries to adopt the system.

English Control of Russian Industries.—Consul Mahin reports from Reichenberg, August 8, 1901:

English companies are taking a very important part in the management of Russian industries. According to a late Russian publication, forty-five different British corporations are thus engaged, mainly in southern Russia. Of these, sixteen operate in the petroleum industry; eight, in coal, iron, and steel production; twelve are developing mines yielding metals and precious stones; while the remaining nine are engaged in textile industries, bicycle making, and constructing waterworks and mills of different kinds.

Russian Crop Prospects.—The Department has received from Mr. Peirce, secretary of embassy at St. Petersburg, under date of September 4, 1901, copy of a report published by the Ministry of

Finance, giving the condition of Russian crops up to July 28 (new style). In general, the crops are stated to be below the average, and Mr. Peirce says that the drought which prevailed up to August 20, with the unusual heat, has had a further unfavorable effect. He is informed that the demand in Odessa for American reapers and harvesters has been unusually great this year.

Korean Rice Exports Prohibited.—Minister Allen reports from Seoul, July 26, 1901, that he has received a note from the Korean Minister for Foreign Affairs, stating that in view of the possible scarcity of food in the country, the Government has forbidden the export of rice and other grain, the prohibition to take effect August 23. As rice forms the chief article of export, the minister thinks the foreign trade of Korea will probably suffer during the coming year. He understands that arrangements are being made for the import of rice from Saigon.

Under date of August 28, 1901, Minister Allen, says that the Korean Government has amended the decree above referred to. The prohibition is now confined to rice, releasing other cereals, including pulse, from the embargo.

Butter in China.—Consul-General Hughes, of Coburg, reports, August 7, 1901, that the German trade papers advise butter packers to ship first-class butter, carefully packed in heavy tin boxes, to the different Chinese ports. Shanghai, they say, takes about $100,000 worth of European butter, packed in ½, 1, and 2 pound tins, the selling price being about 60 cents a pound. Extra California butter, packed in 1-pound glass jars, brings $1.75 per pound; but of course the sale of such a high-grade article is limited. The packers are advised that a good mark of butter, once well introduced, will have a permanent sale. Japan and the Philippines are also said to be promising markets for good butter.

Tariff at Vladivostock.—The Department has received, under date of September 4, 1901, a cablegram from Commercial Agent Greener, of Vladivostock, to the effect that the new duties against United States goods, imposed by the tariff of European Russia,* have been enforced at that port. Duties will be levied on the gross weight and the net measurement of goods.

---

* See ADVANCE SHEETS No. 1017 (CONSULAR REPORTS No. 250).

Venezuelan Tariff on Corn and Beans.—The Department has received a report from Minister Bowen, of Caracas, dated August 24, 1901, stating that the decree of the Venezuelan Government which placed corn and beans on the free list for a period of sixty days from July 16* has been revoked, and that the regular duty will be levied on these commodities on and after the 8th of August.

Venezuelan Tariff Changes.—Consul Plumacher reports from Maracaibo, August 2, 1901, that by an Executive order of July 16 corn, beans, and peas have been placed on the free list from August 1 to September 30, to assist the poorer classes of population, who have suffered much of late from the high prices of articles of food.

Under date of July 25, Mr. Plumacher informed the Department that "oatmeal" had been placed in class 3 of the tariff (25 centimes, or 4.8 cents, per 2.2046 pounds).

Public Lands of Venezuela.—Under date of August 31, 1901, Consul Plumacher, of Maracaibo, transmitted to the Department translation of a decree, signed by the President of Venezuela on July 20, 1900, but only recently issued, regulating the public lands of that Republic. The translation, for future inspection and reference, has been filed in the Bureau of Foreign Commerce.

Colombian Duty on Spirits.—Minister Hart transmits from Bogotá, August 11, 1901, translation of an Executive decree, ordering that duty shall be imposed upon imported alcohol and spirits, as follows: Aguardiente, ajenjo, alcohol (pure, disinfected, rectified, etc.), bitters, brandy, cognac, creams, curaçao, chartreuse, and other pousse-cafés, gin, cherry-brandy, rum, whisky, and the like, per kilogram (2.2046 pounds), $2† (87 cents); extract of cognac, essences, and spirits for making liquors, per kilogram, $10 ($4.36).

American Fire Brick in Ontario.—Commercial Agent Hamilton reports from Cornwall, August 29, 1901, that there is a great demand for American fire brick in the Province. They are being sold at $40 per 1,000. Scotch brick are also used, but are inferior to the American, and only bring $18 per 1,000.

---

*See Advance Sheets No. 1105 (August 5, 1901).

†The value of the Colombian peso was given by the United States Mint, July 1, 1901, at 43.6 cents.

Argentine-Brazilian Trade Treaty.—Minister Lord writes from Buenos Ayres, August 7, 1901, that according to report the Argentine minister to Brazil is about to present to that Government a draft of a new commercial treaty. It is thought that the main features of this treaty are a reduction of the Argentine duty on Brazilian coffee and a reduction of the Brazilian duty on Argentine flour.

Trade Treaty between Germany and Salvador.—Ambassador White, of Berlin, under date of August 13, 1901, says that the treaty of commerce between Germany and Salvador will expire May 23, 1902, notice of the termination having been given by the Republic.

Beginning of Montevideo Port Works.—Minister Finch writes from Montevideo, July 22, 1901, that the corner stone of the new port was laid on the 18th instant, with appropriate ceremonies.*

Consular Reports Transmitted to Other Departments.—The following reports from consular officers (originals or copies) have been transmitted since the date of the last report to other Departments for publication or for other action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
D. T. Phillips, Cardiff	Aug. 24, 1901	Education in Wales	Bureau of Education.
H. L. Washington, Geneva	Aug. 31, 1901	Schools in Geneva	Do.
W. W. Touvelle, Belfast	Sept. 3, 1901	Agriculture in Ireland	Department of Agriculture.
R. Guenther, Frankfort	Aug. 30, 1901	Lecithin congress	Marine-Hospital Service.
V. E. Nelson, Bergen	Sept. 2, 1901	Leper hospital in Iceland	Do.
O. J. D. Hughes, Coburg	Aug. 30, 1901	Anchovy industry	Fish Commission.
B. H. Ridgely, Malaga	Sept. 14, 1901	Rocker beds for invalids	Marine-Hospital Service.
F. W. Goding, New South Wales.	Aug. 22, 1901	Sugar industry of Queensland.	Department of Agriculture.
F. D. Hill, Amsterdam	Sept. 23, 1901	Crops and live stock of the Netherlands.	Do.
Do	do	Savings banks and workmen's homes.	Department of Labor.

---

* See Advance Sheets Nos. 854 and 981 (Consular Reports Nos. 243 and 248).

FOREIGN REPORTS AND PUBLICATIONS.

French View of Conditions in the Philippines.—The following is summarized from a French report published in the Revue du Commerce Extérieur, Paris, June 1, 1901:

The year 1900 was more favorable for the Philippines than the two preceding ones from a commercial point of view, but continued hostilities kept up uncertainty in the provinces. Agriculture has suffered more from this prolonged condition of things than in 1899, while industry throughout the archipelago has been paralyzed. In any country of Europe, the continuation of circumstances as critical as those through which the Philippines have passed would have had a disastrous influence on the future of local production, but in tropical regions with a soil as fertile as that of these islands culture has only to be resumed to give an immediate return, and the Filipinos count upon this advantage. So far, the Americans are unable to profit by this fertility outside of the points where garrisons guarantee tranquillity, and American enterprise at Manila was last year confined to the commerce of importation and exportation, which has increased in appreciable proportions. General commerce, on account of the diminution of production and the absence of communications, has not reached the figures of 1896.

The installation of railways and the opening of new roads will encourage new agricultural and industrial enterprises. In Manila and in the principal ports of the Philippines, foreigners, skilled and able to profit by their opportunities, are sure of a brilliant future.

The English seem to have recognized the fact that the Americans would not at once invade all branches of commerce, and with their practical turn of mind have resumed the affairs which they carried on under the Spanish rule—such as hotels, cigar and cigarette manufactories, pharmacies, etc., and already these establishments pay good dividends. To establish a market for their products, manufacturers of food products, wines, liquors, pharmaceutical products, perfumery, tissues and dress goods, passementerie, lingerie, hosiery, hats, shoes, stationery, fancy articles, toys, musical instruments, porcelain, faïence, glass and crystal, hardware, ironware, machinery, etc., should form a syndicate and send a representative to Manila. At present, goods of French origin are sold by wholesale and retail merchants, who, having other foreign goods in their shops, are not interested in sales except from the point of view of their own profit. A French establishment keeping French goods only would not be open to this objection, and operations could be extended by adding the exportation of native products. Copra, of which more than 60,000 tons were sent from Manila to Marseilles or to Nantes during 1900, would be the most important article. Hemp could be added, and later on the woods, of which these islands possess numerous and valuable varieties.

As a whole, the year 1901 has opened more favorably; the market of Manila, where, for the present, the commercial movement of the archipelago is concentrated, has presented a very animated appearance, giving an idea of the importance of the trade under normal conditions. It is not strange that the world is agitated by the question of securing the trade of this immense archipelago, with its countless sources of wealth, from coal mines to agricultural products, such as sugar, hemp, and tobacco.

Western and Central Siberia.—The Bulletin de Géographie Commerciale, Paris, 1900, has the following:

The Siberia of to-day, traversed by the railway, is radically transformed from the legendary Siberia—a desolate land of melancholy plains, somber forests, and perpetual ice. It is now a country easily accessible and able to astonish the world by the richness of its soil and the wealth of its subsoil. Its natural productions, assured of an outlet, are able to compete with those of neighboring countries in foreign markets. In 1899, Siberia exported from 14,000,000 to 17,000,000 bushels of wheat, the surplus of its production, and half of this was furnished by western Siberia, which already produces more than it consumes. Beyond the Urals stretches the plain of western Siberia, forming a vast agricultural area, of which Kourgane is the center. Besides spring wheat and oats, it exports rye, barley, and buckwheat, and is also the center for cattle raising; cattle, horses, and sheep are seen everywhere, and Siberia has commenced to export great quantities of live animals, frozen meat, tallow, hides, and hair. The manufacture of butter is a growing industry and one supported and aided by the Government. Kourgane alone possesses fourteen factories which manufacture or buy butter. This industry, introduced by the Danes some six years ago, has extended rapidly, not only in the district of Kourgane, but in those of Omsk, Kainsk, Tomsk, etc. The best qualities of Siberian butter are sent to foreign markets—Copenhagen, London, and Hamburg—under the label of Danish butter. The export figures in 1898 were 2,700 tons; in 1899 they were more than doubled, and in 1900 over 10,000 tons were shipped. Among other products may be mentioned the leathers of Tioumène, which are exchanged in Mongolia for the teas of China. At one time, Tioumène played a commercial rôle of the first importance, absorbing all the transit trade between Europe and Asia; it is still an industrial center of Siberia, but the Trans-Siberian Railway has taken away its preponderance.

The Kirghish steppe produces gold, iron, copper, and coal. The coal mine of Ekibas-Tous, discovered a few years ago, is worked by a Russian company with a capital of $1,545,000. The company has built a railway of 68 miles, connecting the mine with the river, 24 miles south of Pavlodar. The discovery of this rich coal bed (the vein worked has a thickness of 195 feet) is of great importance for all western Siberia, where the increasing dearness of firewood embarrasses the development of existing industries and hinders the creation of new ones.

Central Siberia, east of Tomsk, seen from the railway, appears covered with impenetrable forests of firs, pines, and cedars. It is scantily populated; from Tomsk to Irkutsk, a distance of 932 miles, there is only one town deserving the name—Krasnoiarsk, with a population of 27,000 or 28,000 inhabitants. The soil is less favorable to agriculture and cattle raising, but the subsoil is rich in minerals. Gold is everywhere; iron and graphite abound; and it is by the utilization of its mineral wealth that central Siberia will supply the needs of its growing population. A syndicate, under the patronage of the King of Sweden, is now studying the plan of a railway which will unite, through the northern Urals, the Arctic Ocean with the mouth of the Ob, thus avoiding the navigation of the dangerous Sea of Kara and bringing Siberian wheat within a few days of London.

A recent edition of the Imperial Institute Journal, London, has a description of the Siberian Railway, as follows:

It is expected that the Siberian Railway will speedily develop the resources of the long-neglected and almost unknown country, and that Siberia will become a great commercial center. The railway cuts western Siberia into two equal parts, and on entering eastern Siberia, it deviates toward the north. It is obvious that eastern Siberia, with an area of more than twice the extent of Germany, Austria, and France together, must continue to remain for an indefinite period almost entirely dependent upon its own means of locomotion. It may be urged that a trunk railway is usually the precursor of branch loop lines destined to bring together outlying districts; but this railway has been in course of construction since 1891, and is not likely to be completed before 1903. According to authentic reports, it is so badly laid that to render it safe and serviceable the greater part will have to be rebuilt. The cost, originally estimated at $180,358,398, has already reached $437,750,000, and will probably far exceed this sum before the proposed terminus is reached. The carriage of goods by sea is more than 50 per cent cheaper than by rail, at the lowest estimate. A traveler who has recently tried the railway says: "I left Shanghai for London on May 12, and traveled by steamer to Vladivostock, and thence to Moscow via the Amur River and the Siberian Railway. The journey by this route occupied fifty-one days. Through Siberia it was slow, monotonous, and uncomfortable to the last degree. We found the Siberian Railway in a very bad state, badly constructed, with very heavy gradients, sharp curves, light rails, and generally in an inefficient condition; in fact, in its present condition the Siberian route as a means of communication is quite impracticable. It will be a precarious and uncomfortable journey for many years to come." Another traveler states that paucity of sidings to allow of goods trains shunting is among the chief drawbacks of the line. He concludes by urging the importance of the Siberian water ways as a means of traffic. Siberia possesses a series of arteries by which steamers could deliver their cargoes into the very heart of the country, That these rivers are all of them more or less subject to drawbacks incidental to the winter season is admissible, yet he maintains that the regular icebound periods of the Ob and Yenisei are certainly far easier to cope with than the unavoidable railway detentions.

Commerce of Cashmere.—The following extracts are taken from the Bulletin de Géographie Commerciale, Paris, 1900:

The value of the general commerce which passes via Leh (Ladakh) is variously estimated as between $1,950,000 and $2,275,000. This is the only route from India to Central Asia. The chief importations from India into Cashmere are: Cotton tissues and thread, dyestuffs (saffron, madder, indigo, etc.), gunny sacks, faïence, porcelain, iron, steel, copper, brass, hardware, clocks and watches, petroleum, oil cake, salt, sugar (raw and refined), tea, tobacco, wool and silk manufactures, horses, hunting and camping outfits, and food preserves. The exports are: Raw cotton, cotton tissues and thread of Cashmere manufacture, shawls, carpets, tcharass (hemp pollen, with which tobacco is impregnated), fine goat hair (pachoum), cereals, fruits and vegetables, gums, resins, skins, horns, nut oil, butter, flaxseed, mustard, sesame, raw silk, spices, wood, kute root (a kind of incense, exported entirely to China), borax, precious stones (sapphires, turquoises, agate, cornelian, garnet, lapis lazuli, jade, rock crystal), felts, wrought woods (lacquered and colored), articles in wrought silver, enamel on silver, on copper, and wrought copper.

The natives till the ground superficially by means of primitive, wooden plows, without fertilizers; nor do they practice rotation of crops; a field once sown with wheat rarely receives any other seed. The mulberry, which is not a shrub, as in Japan, but a fine, large tree, grows wild in Cashmere. The French silkworm eggs thrive better than the Italian. It is estimated that this country might easily yield 60,000 kilograms (132,276 pounds) of silk. All of the silk spun at Srinagar is sent to a London house, which has the monopoly. The establishment employs 3,000

Econ 5810.2

Vol. LXVII. No. 255.

CONSULAR REPORTS.

DECEMBER, 1901.

COMMERCE, MANUFACTURES, ETC.

[FOR TABLE OF CONTENTS, SEE FIRST PAGE.]

DEPARTMENT OF STATE * UNITED STATES OF AMERICA.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1901.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

Vol. LXVII. DECEMBER, 1901. No. 255.

NEW INSURANCE LAW OF GERMANY.

I transmit herewith translation, made at this consulate, of (1) the imperial statute of May 12, 1901, for the regulation and control of private insurance companies doing business in the German Empire, and (2) the ordinance, or proclamation, of June 30, prescribing the conditions under which the new law shall be carried into effect.

The statute includes 125 articles. Its most important provisions, from the American point of view, consist in the fact that it places all foreign insurance companies—whether fire, life, security, or employers' liability—under control of a special bureau of the Imperial Government, instead of, as hitherto, under a small office attached to the Prussian Ministry of the Interior; and, secondly, that concessions to foreign insurance companies to do business in Germany are decided upon and, when granted, signed by the Imperial Chancellor.

The effect of the new statute will be therefore to put the whole complicated and sensitive subject of foreign insurance companies in Germany on a uniform and much broader basis than hitherto, when Prussia, Bavaria, Saxony, Wurttemberg, and the Hanseatic cities each had different regulations on the subject.

It will now be necessary for foreign companies doing business in any part of Germany to qualify—that is to say, comply with the conditions demanded—for the whole Empire. Appeal will be to the Imperial Chancellor, an official of broader views and prerogatives, and naturally more open to diplomatic approach and influence, than the state officials under whose ministrations the restrictions of the early nineties were enforced.

What the ultimate effect of the new law will be upon the great American companies which are already partially established here it is as yet too early to predict.

It is understood that they have complied with the demands of the statute in respect to furnishing prescribed information concerning their assets and methods of business, and their future course will be determined on when it is known how their reports have been received and to what extent approved. Impartial experts express the opinion that under the statute as enacted any well-organized, adequately capitalized, and competently managed foreign insurance or security company will be able to secure a concession to do business in Germany.

FRANK H. MASON,
Consul-General.

BERLIN, *August 29, 1901.*

[Translated from the Reichsanzeiger of July 12, 1901.]

DECREE FOR THE EXECUTION OF THE IMPERIAL LAW OF MAY 12, 1901, REGARDING PRIVATE INSURANCE ENTERPRISES, DATED JUNE 30, 1901.

We, William, by the Grace of God, King of Prussia, etc., order as follows for the carrying out of the imperial law of May 12, 1901, concerning private insurance enterprises (Imperial Law Gazette, Reichsgesetzblatt, p. 139):

In accordance with article 125, section 2, of the imperial law of May 12, 1901, relating to private insurance enterprises, the Government presidents (Regierungs-Präsidenten) are charged with the supervision of the insurance enterprises located in their districts as far as such supervision is conferred on the state authorities by article 2 and article 3, section 2, of said law. In the state police district of Berlin the president of police takes the place of the president of Government.

In accordance with the law of April, 1885 (Gesetz-Sammlung, Code of Laws, p. 127), it is furthermore ordered that in the cases of article 73, section 1, of the imperial law of May 12, 1901, relating to private insurance enterprises, action against orders of the governing presidents and the Berlin police president is to be taken before the high court of administration (Oberverwaltungsgericht) within a month after the delivery of such order.

By document under our own highest signature and royal seal attached.

Given on board my yacht *Hohenzollern*, at Travemünde, June 30, 1901.

(Signed) WILLIAM.

Countersigned by Count Von Bülow, Von Thielen, Schönstedt, Count Von Posadowsky, Studt, Baron Von Rheinbaben, Baron Von Hammerstein, Möller.

[Translated from the Reichsanzeiger of July 13, 1901.]

NOTIFICATION REGARDING THE DECLARATIONS TO BE MADE BY PRIVATE INSURANCE CONCERNS.

According to article 98 of the law of May 12, 1901 (Reichsgesetzblatt, Imperial Law Gazette, p. 139), concerning private insurance enterprises, the insurance concerns at present admitted must, on demand of the supervising authorities within a time set by the latter, make the requisite declarations for revealing their business scheme (Geschäftsplan).

The authority of supervision in accordance with articles 2, 70, 91 of the law is the imperial supervising office for private insurance (Kaiserliche Aufsichtsamt für Privatversicherung) for those insurance enterprises—

(*a*) Whose business, according to statute or other business rules, extends beyond the territory of one federal state or to whom by the admission such a manner of doing business is allowed;

(*b*) For those insurance enterprises which, although confining their domestic business to the territory of a single federal state, are simultaneously engaged in insurance business abroad;

(*c*) For all foreign insurance enterprises which carry on the insurance business in Germany (im Inlande), not exclusively by way of correspondence, but through representatives, authorized agents, mandatories, or other mediators. To this authority the insurance enterprises indicated must make by the 15th of August, 1901, the declarations required for explaining their business plan.

Regarding this the following is mentioned:

I. With the exceptions to be indicated below, the concerns mentioned above must comply with the legal obligation, regardless of the real and territorial boundaries of the business, and also regardless of the form of enterprise selected for carrying on private insurance of every kind.

Therefore the duty to make the requisite declarations is—besides the enterprises of the different kinds of life insurance, accident, employers' liability (Haftpflicht), fire, or hail insurance—also imposed upon the enterprises of credit insurance, plate-glass insurance, insurance against aqueduct damages or theft, cattle insurance, and all other branches of insurance as well.

The obligation must be fulfilled by those enterprises which by a competent authority were expressly declared to be authorized to transact insurance business and by those enterprises just as well which are permitted to carry on insurance business without special permission by virtue of the general rule of law affecting them.

It is immaterial whether the transaction of the insurance business is the sole or chief object of the enterprise. The law only assumes a private enterprise which has the object of transacting insurance business and in which, consequently, the aim is directed toward concluding insurance business.

Whether an insurance business be in question may be doubtful in the single case. It is advisable that enterprises, while considering whether they are obliged to make the declarations, should conceive the definition of insurance business as wide as possible, and, in case of necessity, leave it to the imperial supervising office to solve the doubts whether the idea of insurance business be correct.

Such combinations of persons who grant their members assistance without conceding a legitimate claim therefor do not, according to article 1, section 2, of the law, appear as insurance enterprises in the sense of the law. Should doubts exist in a single case in this respect, it is advisable to give notice.

II. The form of enterprise is without influence on the obligation to make declaration. This therefore extends, besides the stock companies and mutual insurance associations, not only to the different kinds of commercial societies and other forms of associations under the civil code, but also to the single enterprises engaged in the insurance business.

III. The declarations shall serve to disclose the business plan (articles 4 to 12 of the law)—that is, the declarations shall enable the imperial supervising office to exercise supervision over the business of the insurance enterprises continually.

Generally it may be accordingly in the first place left to the insurance enterprises themselves to determine the contents of the statements to be made by them. There are to be considered especially the statutes, prospectuses, tariffs, accounts, and annual reports. The imperial office of supervision reserves the right to cause the completion if it finds the declarations insufficient.

An idea of the requisite contents of statements will be obtained from article 4 of the law, according to which the business plan comprises everything that must be examined into when license is granted. The business plan shall especially show the scope and organization of the enterprise, the territorial extension of the business, and disclose, too, principally those circumstances which shall prove the lasting ability of the enterprise to fulfill its future obligations. As component parts of the business plan shall be considered especially—

(1) The society contract or the statute, if the enterprise be based on such:

(2) The general conditions of insurance and the technical business bases, in so far as such be required, according to the kind of insurance to be carried on.

IV. The business plan of a life-insurance enterprise (article 11 of the law) shall completely expose the tariffs adopted by it, and also the principles of calculating the premiums and premium reserves, and state, particularly, also the rate of interest applied and the ratio of the additional payment to the net premium.

It is also to be stated if, and to what extent, in calculating the premium reserve, a method is applied by which in the beginning not the whole premium reserve is put aside.

The probability tables serving as bases for the calculations concerning the mortality tables and the risk of invalidity and sickness must be adjoined.

For every kind of insurance (insurance in cases of life, in case of death, capital insurance, annuity insurance, etc.) the formulæ by which the premiums and premium reserves are calculated must be submitted and be explained by an arithmetical example.

If risks with higher premiums have been accepted, or shall be accepted, it must be declared, furthermore, if and according to what principles a special premium reserve was formed for these.

V. What has been said about life insurance under IV (article 12 of the law) shall be applied accordingly to disease or accident insurance enterprises as far as they carry on insurance after the model of life insurance on the basis of definite probability tables, especially the assurance of annuities, insurance with return of premiums, or other insurances which require the accumulation of premium reserves.

VI. In all cases in which the insurance business is carried on on the basis of a license (concession) granted by a state authority, any conditions of admission must be submitted.

VII. From the obligation to make the declarations as required by figures, II to VI are excepted.

(*a*) The public insurance enterprises. Therefore must be omitted, especially all those aid societies (Kassen) and institutions in which is vested by the workingmen's insurance laws of the Empire the execution of the disease, accident, and invalidity insurance as a public legitimate duty; also similar organizations founded on state law; furthermore, all other public insurance institutions founded on state law and administered or directed by officials of the state, community, or church. To these belong the public hail and cattle insurance establishments and the public fire insurance societies.

(*b*) The funds (Kassen) founded on the basis of the law of April 7, 1876 (Reichsgesetzblatt, Imperial Law Gazette, p. 125) relating to registered aid funds (eingeschriebene Hilfskassen) in the form of the law of June 1, 1884 (Reichsgesetzblatt, Imperial Law Gazette, p. 54), the aid funds pointed out by article 75, section 4, of the law insuring the sick and founded on state orders, the funds for supporting established by guilds or unions of guilds in accordance with the trade regulations (Gewerbeordnung), and the miners' funds (Knappschaftscassen) established according to rules for miners (article 122 of the law relating to private insurance enterprises).

(*c*) Enterprises which carry on the insurance against losses from the rate of exchange, or transport insurance, or, exclusively, reinsurance as far as nonmutual associations are concerned (article 116 of the law).

Finally it may be pointed out yet that the prescriptions of the law shall not be applied to insurance enterprises which upon its coming into force are in liquidation or bankruptcy (article 104). Such enterprises are, consequently, not obliged to make the declarations indicated above.

The President of the Imperial Supervising Office for Private Insurance,
Dr. Von Woedtke,
Actual Superior Privy Counselor of Government.

Berlin-Charlottenburg (Grolmanstrasse 42–43), *July 10, 1901.*

Law Regarding Private Insurance Companies, Dated 12th May, 1901.

I.—PRELIMINARY REGULATIONS.

Article 1.

Private enterprises for the purpose of carrying on insurance business are subject to supervision according to this law, excepting the regulations given in articles 116, 117 and 122.

Combinations of persons allowing their members an assistance without, however, granting them a legal claim, are not considered assurance businesses in the sense of this law.

Article 2.

The supervision of the assurance business is carried out by the government of the country, in cases where the business is confined to the districts of one country of the Empire, by its statutes or other business conditions, otherwise by the imperial office appointed for that purpose.

Article 3.

The supervision of an assurance business confined to the district of one country in the Empire can be transferred by imperial order to the imperial office of supervision on request of said country with agreement of the Federal Council.

In conjunction with the respective government the Imperial Chancellor can order that businesses, whose transactions exceed the district of a state but which in its object, locality or circle of clients is very limited, can be placed under the supervision of the government of the state where its offices are located.

II.—ADMISSION TO DO BUSINESS.

Article 4.

Assurance businesses must have the permission of the superintending office for carrying on business.

When applying for concession the business plan must be handed in, from which the purpose and the internal arrangements of the business must be discernible, also the district of the intended business and especially those resources from which are to be obtained the continuous ability of meeting the future liabilities of the business.

As parts of the business plan there are to be handed in:

(1) The company's contract or the statutes in as far as the business is based upon the same.

(2) The general assurance conditions and the technical business basis so far as they are requisite according to the manner of the intended assurance.

Article 5.

The concession is granted independent from the proof of a need and, unless the sphere of action of the business is confined according to the business plan to a certain period or a small district, without a limit of duration, and for the whole of the Empire respectively.

Article 6.

The permission may be granted to a combination of persons intending to carry on assurance of its members on a mutual basis only if these combinations are made in the form of assurance companies on mutual principles (articles 15 to 53).

For the purpose of the various kinds of life insurances as well as accident, liability, fire, or hail assurances, the business concession may only be granted to assurance companies (Actien Gesellschaften), besides assurance combinations on mutual principles.

Assurances against disability, old age, widowhood, orphanage, and endowment, and military service assurances, no matter whether for capital or annuities, are considered life assurances under this law.

Article 7.

Concession to carry on business may only be refused if—

(1) The business plan is contrary to the legal requirements.

(2) If according to the business plan the interests of the assured are not sufficiently secured or the continuous fulfillment of the liabilities resulting from the assurance is not sufficiently demonstrated.

(3) If there are facts justifying the assumption that a business will not be conducted according to the law or good morals.

The concession can be made dependent upon a suitable security, the purpose of which and the condition of its repayment must be fixed.

Article 8.

The business contract of a stock company must show the several branches of assurance over which the business extends, also the principles for the investment of the capital if the assurance business is to be carried on directly only or also indirectly (through re-assurance).

With businesses regulated by statutes the data specified under 1, are to be contained in the statutes.

Article 9.

In the general assurance conditions those conditions are to be contained which deal with—

(1) The events at the occurrence of which the assurer is bound to an obligation, and cases in which for certain reasons this obligation is to be excluded or suspended (on account of wrong statements in the application, on account of alterations during the duration of the contract, etc.).

(2) The manner, the extent and maturity of the obligation on the part of the assurer.

(3) The determination and payment of the premium due by the assured to the assurer and the legal consequences of a delay in the payment of such premium.

(4) The duration, especially a silent prolongation, the notice of termination as well as other total or partial discontinuation of the assurance contract, and the obligations of the assurer in cases of the latter kind (suspension, surrender, change of assurance, reduction and such like).

(5) The loss of the claim from the assurance contract in consequence of neglecting periods of grace.

(6) The proceedings in cases of dispute arising from the assurance contract, the competent court and the appointment of a court of arbitration.

(7) The principles and bases according to which the assured participate in the profits.

(8) The suppositions and extent of payments in advance or loans on policies of life insurance.

With assurance combinations on mutual principles the items specified in 1 can be given in the statutes instead of the general assurance conditions.

Deviations from the general assurance conditions in disfavor of the assured are only permissible for certain reasons and on condition that the assurant has them especially pointed out to him before closing the contract and expressed his agreement in writing.

Article 10.

Before closing the assurance contract, a copy of the general assurance conditions in force must be handed to the assured against an especially written-out receipt. The same applies to the statutes of the combination in cases of assurances on mutual principles.

The regulation of 1, does not apply to such fire assurances closed on 'change or according to the custom on 'change.

The supervising authority can make further exceptions from the regulations of 1.

Article 11.

The business plan of a life-insurance business has to fully show its tariffs as well as the principles of calculating the premiums and premium reserves, especially stating the rate of interest and the loading of the net premium. It must also be stated if, and to what extent, in calculating the premium reserve, a method is to be applied according to which at first not the whole premium reserve is put back, in which case however 12½ per mille of the assured amount must not be exceeded. The tables of probability, especially as to mortality, and the risk of disability, and sickness forming the basis of the calculations, must be added.

For every kind of assurance, endowment, death, capital, annuities, etc., the formula used for calculating the premiums and premium reserves must be stated and illustrated by an example in figures.

If assurances with a higher premium are to be undertaken, it must be stated in the business plan whether and on what principles a special premium reserve is to be formed for same.

Article 12.

In so far as disability or accident assurance companies close assurances, in the manner of life insurances, on the basis of certain tables of probability, especially the assurances of annuities, assurances with return of premiums, or other assurances, necessitating the accumulation of premium reserves, the regulations of article 11 apply also.

Article 13.

Every alteration in the business plan must be notified to the authority of supervision, whose sanction it needs before becoming legal. Sanction may only be refused for reasons given in article 7.

Article 14.

Every agreement transferring the assurance in force of one company to another, either entirely or of certain branches, with the respective reserves and premium transfers, requires the sanction of the respective authorities of supervision of the businesses concerned. The sanction may only be refused for reasons as per article 7.

III.—ASSURANCE COMBINATIONS ON MUTUAL PRINCIPLES.

Article 15.

A union which intends assuring its members on the mutual principle obtains legal rights by the concession of the authority of supervision to carry on business as "assurance combination on mutual principles."

Article 16.

The regulations regarding business men in the first and third volume of the commercial legal code, excepting articles 1 to 7, apply to assurance combinations on mutual principles, except where this law directs differently.

Article 17.

The constitution of an assurance combination on mutual principles is regulated by the statutes unless based upon the regulations below.

The statutes require a legal or notarial authentication.

Article 18.

The statutes must fix the name (the firm) and the seat of the combination.

From the style of the firm the seat of the combination must be discernible. It must also be expressed in the style of the firm or an addition thereto that the assurances are closed on the mutual principle.

Article 19.

The capital of the combination alone is liable for all obligations of the combination to its creditors, the members are not liable to the creditors of the combination.

Article 20.

The statutes must contain regulations as to the commencement of membership. The acquirement of membership supposes the closing of an assurance contract with the combination. The membership ends, unless otherwise arranged in the statutes, by the termination of the assurance contract.

Article 21.

The contribution of the members and the obligations of the combination to the members must, under the same conditions, always be arranged on equal basis.

The combination may carry on assurance business on payment of fixed premiums, in the manner that the assurants do not become members of the combination, only in so far as the statutes expressly permit this.

Article 22.

In the statutes a fund for the foundation is to be especially provided for the expenses of getting up the combination, also serving as a guaranty and for carrying on the business. The statutes are to contain the conditions under which the funds are at the disposal of the combination, especially in which manner the amortization of the foundation fund is to be carried out and whether and to what extent the parties who supplied the funds of foundation shall have a share in the management of the combination.

The fund of foundation is to be paid in cash, bar in as far as the statutes allow the contribution of own bills in place of cash payment. Cash payments are only considered payments in German money, bills of the Imperial Bank or bills of German banks legally admitted. The right of notice of withdrawal must not be granted to those who have supplied the fund of foundation. In the statutes they can be given a share in the surplus accruing from the annual balance besides interest payable from the annual receipts; the rate of interest may not exceed 4 per cent, the whole compensation not 6 per cent of the amount paid in. The fund of foundation may be divided into shares for which certificates of shares may be issued.

An amortization of the fund of foundation may only take place from the annual income, and only in proportion as the accumulation of the reserve fund, provided for in article 37, progresses. It must be commenced as soon as the expenses of starting and the expenses incurred during the first business year have been paid.

Article 23.

The authority of supervision can give permission that no fund of foundation be formed if, by the nature of the business to be carried on, or through special arrangements of an enterprise, other securities are given.

Article 24.

The statutes have to decide whether the expenses are to be covered:

(1) By a single, or repeated contributions payable in advance, with the right of subsequent contributions, or excluding subsequent contributions, with or without reserve to curtail assurance claims.

(2) By levies in proportion to the requirements.

The statutes can fix a limit to which the duty of paying subsequent contributions or shares in the expenditure is confined. A restriction according to which a call of subsequent contributions or levies for the expenditure, may take place only for the purpose of covering the assurance claim of members, is not admissible.

Article 25.

The rates of expenditure and subsequent contributions must also be borne by those members who go out during the business year. The duty of contribution of such members as well as those members joining in the course of the business year depends upon the duration of membership during the business year.

In case the amount contributed or subsequently to be contributed by the several members depends upon the amount collected in advance or the assured amount, the calculation of the higher amount must be taken, if in the course of the business year a rise or reduction of the contribution or the assured amount respectively has taken place.

The regulations of 1 and 2 are applicable only in so far as the statutes do not direct differently.

Article 26.

The demand of a combination for contribution, the member can not compensate by a counter claim.

Article 27.

The statutes are to contain the conditions under which the demand for contributions toward the expenditure or subsequent contributions, is to be made, and in how far the other means for covering the same (fund of foundation, reserves) are to be used.

The statutes must also state in what manner calls for contributions and subsequent contributions are to be issued and collected.

Article 28.

The statutes have to decide as to the form in which the publications of the combination are to be made.

Publications in public papers must be made in the Reichsanzeiger, if the business extends beyond the district of a single state of the Empire. If the business is confined to the territory of one state, the central authorities of that state can designate another paper in place of the Reichsanzeiger. Any other papers are designated in the statutes.

Article 29.

The statutes have to decide as to the formation of a board of directors, a board of supervision and a supreme organ (meeting of members or representatives of members).

The duties of this supreme organ can be divided among several organs higher than the board of directors and board of supervisors.

Article 30.

The combination is to be registered at the court, in whose district it has its seat, by all the members of its board of direction and supervision for entry in the commercial register.

The authority of supervision has to advise the court of registration of every concession of business (article 15).

Article 31.

The application for registration must be accompanied:

(1) By the document as to the concession.

(2) The statutes.

(3) The document as to the appointment of the boards of direction and supervision.

(4) The document of the contribution of the fund of foundation, with a declaration of the board of direction and supervision in how far the fund of foundation is covered by cash payment, and in their possession.

The members of the boards have to give their signature, which is to be kept by the court. The original and one certified copy of documents for registration are kept by the court.

Article 32.

When making the entry on the commercial register the firm and the seat of the combination must be given, the branches of assurance to which the business is to be extended, the amount of the fund of foundation, the day when the concession was granted and the members of the boards.

In case the statutes contain special directions as to the duration of the combination, or the rights of the members of the boards or the liquidators for representing the combination, these conditions are also to be entered.

Article 33.

In the publication announcing the entry there is to be inserted, besides the contents of the entry:

(1) A statement whether the expenses are to be covered by contributions in advance or by later levies. In the first case, whether excluding or reserving subsequent demands, whether the duty of contributing is limited or not, and whether the right of curtailment of assurance claims is reserved (article 24).

(2) The points fixed in article 28.

(3) The manner of appointing and composing the organs of the combination.

(4) Name, position, and domicile of the members of the first board of supervision.

(5) The manner in which the supreme organs are called together.

Article 34.

The regulations of articles 231 to 239, 241, 242 of the commercial legal code apply to the board of directors in the manner that what is directed as the resolutions of general meetings applies also to the resolutions of the supreme organ and that in place of article 236, 1 and article 241, 3 of the commercial legal code the following regulations are given:

(1) The members of the board of directors may not carry on a business (trade), nor be on the board of direction or supervision of a similar assurance enterprise without permission of the board of supervision, unless the statutes direct otherwise.

(2) The members of the board of directors are obliged to give indemnity if payment of interest, or amortization of the fund of foundation, or division of the capital of the combination take place, disregarding the prescriptions of the law, or if payments are made after the insolvency of the combination has taken place, or the excess of liabilities over assets has shown itself.

Article 35.

The regulations of articles 243 to 249 of the commercial legal code apply to the board of supervision on condition that the duties with which the general meetings have been charged, are attended to by the supreme organs and that, in place of article 243, section 4, division 2, article 245, section 1 and article 249, section 3, division 1, of the commercial legal code, the following regulations are placed:

(1) The statutes are to direct whether a resolution of the supreme organ canceling the appointment of a member of the board of supervision requires a special majority.

(2) An allowance according to the annual surplus, payable to the members of the board of supervision may only be granted from the amount which remains after all amounts have been written off, and reserves made, and after the share in the surplus has been deducted for those who contributed the fund of foundation on promise of a participation in the profits, as per article 22, 3.

(3) The members of the board of supervision are liable to make indemnification if with their knowledge and without their interference, steps are taken which are especially designated in article 34, No. 2.

Article 36.

The regulations as regards general meetings of shareholders in articles 250, 251, sections 3, and 4 of article 252, articles 253, 256 to 261, 264, section 1 of article 266, sections 1 and 2 of article 267, articles 268 to 273 of the commercial legal code and, in case the general meeting of the members is appointed as the supreme organ, the regulations of article 252, section 2 and articles 254, 255, 263 of the commercial legal code apply to the supreme organ, with the following modifications:

(1) If according to these regulations a minority of shareholders with shares amounting to a tenth or twentieth of the stock capital, are granted certain rights, the statutes prescribe the requisite minority of the members of the supreme organ.

(2) The above regulations remain out of force in so far as they demand a deposit in shares or a statement of the amount of the represented shares.

(3) The authority of supervision can, when granting the concession, give permission of the cost of organization and of expenditure during the first business year, to be distributed over several but not more than the first five business years, provided it does not exceed half of the total fund of foundation nor the portion paid in cash, and the remaining balance is each time specified in the balance sheet as a liability.

The statutes have to decide as to the form and, if section 1 of the articles 254, 255 of the commercial legal code are not applicable, also as to the suppositions and the terms for calling in the supreme organs.

Article 37.

The statutes have to decide as to the formation of a reserve which is to be used for the covering of any extraordinary losses in business, especially to determine the amounts which are to be put back annually, and to fix the lowest limit, up to the accumulation of which such annual reserves are to be continued.

The reasons for not forming a foundation fund (article 23) can also authorize the authority of supervision to grant release from the formation of a reserve fund.

Article 38.

A surplus accruing from the balance, unless used according to the statutes for the reserve fund or other reserves, or for distribution as a premium, or a transfer to the next business year is to be distributed among members according to the statutes.

The statutes have to decide as to the basis of distribution, also whether the distribution is to take place among the members existing at the end of the business year or including those that have gone out.

The distribution can only take place after the cost of organization and first start (article 36, section 1, No. 3) have been paid.

Article 39.

The statutes can only be altered by a resolution of the supreme organ

Making alterations only in the wording of the statutes can be passed on to the board of supervision by resolution of the supreme organ.

The board of supervision can be empowered by the supreme organ to make amendments to the resolution of alterations, in case the authority of supervision demands a change of same before approval.

The resolution of the supreme organ must show a majority of three-quarters of the votes if a branch of assurance is to be discontinued or a new one introduced. The statutes can demand different requirements. For other resolutions specified in 1 to 3, such a majority is only needed if the statutes do not demand otherwise.

Article 40.

An alteration in the statutes must be notified for entry in the commercial register. The notification is to be added to the document of concession.

For entry a reference to the documents regarding alteration handed to the court suffice, unless the alteration refers to items specified in article 32. The public announcement takes place of all decisions, to which the publications prescribed in article 33 refer.

The alteration does not take place until it has been entered on the commercial register of the court in whose district the combination has its seat.

Article 41.

The regulations of article 39, sections 1 to 3, apply to alterations of the general assurance conditions as per article 9.

The board of supervision can be empowered by the statutes or the resolution of the supreme organ, to make preliminarily urgent alterations in the general assurance conditions with agreement of the authority of supervision. These alterations must be placed before the supreme organ at its next meeting. They are to be canceled if the supreme organ demands it.

By an alteration in the statutes or the general conditions of assurance an insurance contract in force is only affected if the assured expressly agrees to the alteration. This does not apply to such alterations which are expressly provided for in the statutes as being justified with effect also upon the existing assurance contracts.

Article 42.

On expiration of the time appointed by the statutes the combination is dissolved.

Article 43.

The dissolution of the combination can only be agreed upon by the supreme organ.

The resolution needs a majority of three-quarters of the votes given unless a different requirement is contained in the statutes. Members of the supreme organ who have voted against the dissolution, are entitled to have their contradiction to the resolution of dissolution mentioned in the minutes (article 74).

The resolution needs the confirmation of the authority of supervision. The authority of supervision must advise the court of registration of its agreement.

The assurance contracts between the members and the combination cease with the period agreed upon in the resolution, at the earliest at the expiration of four weeks, with the effect that the assurance claims, which have been made up to that period, can be maintained, but otherwise only those amounts less costs, can be claimed, which have paid in advance for future insurance periods.

The regulations of 4 do not apply to assurance contracts on life assurance. These assurance contracts are not affected unless the statutes direct otherwise.

Article 44.

The regulations of article 43, sections 1 and 2 apply respectively to resolutions dealing with an agreement of the kind specified in article 14.

Article 45.

The dissolution of a combination must be advised by the board of directors for entry in the commercial register excepting the case of bankruptcy.

Article 46.

On dissolution of the combination its liquidation takes place unless it becomes bankrupt.

Until the end of the liquidation the combination is considered as existing unless a different result accrues from the following regulations or for the purpose of the liquidation; more especially the issue and collection of subsequent contributions and levies (article 24) can take place.

New assurances can not be taken, those in force can not be raised or prolonged.

Article 47.

The regulations of article 295, section 1, section 3, division 2, the articles 296 to 299 and the article 302 of the commercial legal code are applicable respectively to the liquidation. On application of the board of supervision or a minority of members, specified in the statutes, the nomination of liquidators can take place for important reasons by the court in whose district the combination has its seat. The recall of liquidators can take place by the court under the same condition as their appointment. The regulations of articles 145, 146 of the law as to the affairs of voluntary jurisdiction apply respectively. An amortization of the fund of foundation can not take place until the claims of all the other creditors, especially the claims of the members from assurance contracts, have been satisfied or secured. For the purpose of amortization, levies or subsequent contributions may not be raised.

Article 48.

The capital of the combination remaining after payment of debts, unless other claimants have been designated in the statutes, is to be distributed among the members at the time of dissolution in the manner, unless otherwise designated in the statutes, of distributing the surplus during the existence of the combination.

The statutes can direct that the recipients are to be designated by the resolution of the supreme organ.

The regulations of article 301 of the commercial legal code apply to the manner of distribution.

Article 49.

By the opening of bankruptcy proceedings the combination is dissolved. The regulations of article 307, sections 2 and 3 of the commercial legal code apply respectively.

Article 50.

The members or late members of the combination, as far as they are liable according to law, or the statutes, to a contribution, remain liable to the combination for its debts in case of bankruptcy.

Late members, if their resignation took place within the last year before the commencement of bankruptcy proceedings, remain members, so far as their liability for the debts of the combination goes.

Article 51.

The claims of amortization of the fund of foundation give precedence to all other claims under the bankruptcy. Among the latter the claims from the assurance contracts due to the members of the combination at the time of the bankruptcy or to members gone out within the year before bankruptcy, give precedence to the claims of the other creditors.

For the amortization of the fund of foundation, levies or subsequent contributions may not be claimed.

Article 52.

The fixing and issue of the subsequent contributions or levies in case of bankruptcy is attended to by the receiver. He has to determine, after the balance has been deposited with the secretary of the court (regulation of bankruptcy, article 124), how much the members according to the agreement of membership have to advance to cover the deficit.

The regulations of article 106, sections 2 and 3, and the articles 107 to 113 of the law dealing with the associations for mutual economy (Ewerb und Wirtschaft) apply respectively as regards the calculation of advance and requisite additions.

As soon as the final division (law of bankruptcy, article 161) has commenced, the public receiver has to calculate the contributions to be made by the members, in completion or rectification of the advance charged and any additions thereto. To this calculation and the further proceedings the regulations of article 114, section 2, and articles 115 to 118 of the law of economic associations apply respectively.

Article 53.

The regulations given in part 3, article 15, section 1 of article 17, section 1 of article 18, the articles 19 and 20, section 1 of article 21, the articles 22 to 27, section 1 of article 28, article 37, section 1 and 2 of article 38, sections 1 to 3 of article 39, articles 40 to 44, section 2 of article 47 and articles 50 to 52 apply to combinations which according to statutes have a sphere limited by matter, locality and number of persons. The contract of assurances at fixed premiums without acquiring the membership by the assured is excluded.

If nothing else is stipulated in section 1, the general regulations of articles 24 to 53 of the civil code regarding combinations suffice as regards the combinations mentioned therein in the manner that:

(1) In cases as per article 29 and section 2 of article 37 of the civil code, the lower court (Amtsgericht) is replaced by the authority of supervision.

(2) In case of article 45, section 3, of the civil code the capital is to be distributed among the members according to section 1 of article 48 of this law.

If according to the statutes a board of supervision is to be appointed, the regulations of article 36, sections 2 and 3, articles 37 to 40, and the article 41, section 1, 2, and 4 of the law referring to economic associations apply.

The authority of supervision decides whether a combination is to be considered a small combination in the sense of section 1.

IV.—MANAGEMENT OF ASSURANCE BUSINESSES.

1.—GENERAL RULES.—RENDERING OF ACCOUNTS.

Article 54.

For the purpose of acquiring real estate the assurance companies and assurance combinations on mutual principles must have the permission of the authority of supervision, unless it is a purchase of real estate upon which loans have been made, when the estate is being sold under foreclosure of mortgage. The permission is to be given if, besides the case of sale under foreclosure of mortgage, the purchase is made to secure outstanding claims, or if the real estate is purchased for business purposes.

In cases of section 1, also where the permission of the authority of supervision is not required, the government sanction demanded by the laws of a respective state, is not required (article 86 of the law introducing the civil code).

Article 55.

The books of an assurance business must be closed annually, from the books a balance and an annual report describing the affairs and development of the business during the last business year has to be drawn up and handed to the authority of supervision.

Detailed requirements as to the time as well as the kind and style of the balance sheet and the annual report can be issued by the authority of supervision, so far as in this law or other imperial laws of the Federal Council regulations have not already been issued regarding the keeping of books and rendering of accounts of assurance business.

Assurance companies and combinations on mutual principles are obliged to hand, if requested, to an assured, a copy of the balance sheet and the annual report within the business year following the year of the report. The authority of supervision can issue rules how far and in what manner the balance sheet and the annual report are to be placed at the inspection of the assured every year or to be published.

Before issuing regulations of the kind described in sections 2 and 3, the authority of supervision has to consult the advisory board of assurance.

2.—SPECIAL REGULATIONS AS TO THE PREMIUM RESERVE OF LIFE ASSURANCE.

Article 56.

The premium reserve for life assurances on the assurance contracts in force is to be calculated and entered on the books at the close of every business year, separate for the several kinds of assurance, calculated on the basis of principles as per article 11.

At the foot of the balance, at least one expert, intrusted with the calculation of the premium reserve with life, disability or accident assurance businesses (article 12), must confirm that the premium reserve entered has been calculated according to section 1, independent of the responsibility of the representative of the business. This regulation does not apply to smaller combinations in the sense of article 53.

Article 57.

The directors of the business have to see that the amounts, corresponding to the calculations as per article 56, are without delay transferred to the premium reserve fund and duly invested. This transfer may only then be omitted when special security from the premium receipts must be made abroad in favor of certain assurance contracts.

The premium reserve funds (moneys, stock, documents, etc.) must be held separately from all other funds and kept at the seat of the enterprise in a manner of which the authority of supervision has to be advised—the authority of supervision can also give permission for the keeping of the same in some other place within the German Empire.

A record of the several accounts forming the premium reserve fund has to be kept. The claims arising from payments in advance or loans on the own policies of the business so far as they form a part of the premium reserve fund, need only be shown in one lump amount. At the end of every business year a copy of the entries made in the course of the business year has to be placed before the authority of supervision with a notarial certificate as to its agreement with the original. This copy is to be kept by the authority of supervision.

Article 58.

For re-assurances the re-assured business has to calculate and itself keep and administer the premium reserve also for the re-assured amounts according to the regulation of articles 56, 57.

Article 59.

The amounts (article 57) forming the reserve fund can be invested as follows:

(1) In the manner described in article 1807, section 1, Nos. 1 to 4 of the civil code, as to the investment of the moneys of minors. Besides that the amounts may be invested up to the tenth part of the premium reserve fund in stock which, according to the prescriptions of the respective state is admissible for the investment of moneys of minors, as well as in those mortgage certificates of German mortgage banks issued on owner, upon which the Imperial Bank grants loans in class 1.

(2) Against mortgage on such mortgages or stock in which an investment according to No. 1, is admissible up to 75 per cent of its nominal value, or if the exchange be lower up to 75 per cent of the exchange value.

(3) In the manner that payments in advance or loans on the own policies are granted in accordance with the general conditions of assurance (article 9, No. 8).

(4) In securities of home communities, schools and churches, with permission of the authority of supervision, if these debentures can be terminated by notice of the creditor or are subject to a regular amortization.

If the investment can not be made in the manner of No. 1, on account of circumstances, a preliminary investment with the Imperial Bank or a state bank or any other inland bank or public savings bank designated suitable by the authority of supervision.

Article 60.

When investing the amounts of the premium reserve fund according to the regulations of article 59, section 1, No. 1, a mortgage or real estate debenture or income debenture (Rentenschuld) may be considered secure if the loan does not exceed the first three-fifths of the value of the real estate. If, however, the authorities of a state allow, as per article 11, section 2 of the law of mortgage banks, the loaning on agricultural estates up to two-thirds of the value, such a mortgage may also be considered secure.

As a rule, first mortgages only must be taken.

Loans are excluded on building plots and such newly built houses which are not yet completed and do not yet bring in a return, and on real estate which does not bring in a regular return, and especially on mines, quarries and pits.

The value of a real estate assumed for the loan must not exceed its selling value ascertained by careful investigation. In ascertaining this value only the lasting qualities of the real estate and its return are to be considered, which this real estate with proper management would allow any owner.

On request of the authority of supervision the businesses have to issue instructions for the ascertainment of values which has been approved of by the authority of supervision.

Article 61.

Only such amounts may be taken out of the premium reserve fund, besides the moneys necessary for the investment or alterations in investments, as become freed by the occurrence of the assurance becoming due, surrender or other causes of ending the assurance contract.

Through the opening of bankruptcy proceedings the life-insurance contracts cease; the assured can claim that amount to which at the time of the bankruptcy the legal premium reserve on their policies amounted, without this interfering with their further claims from the assurance contract.

As regards the satisfaction from the amounts of the premium reserve fund entered on the record, (article 57 section 3) the claims against the legal premium reserve, as far as their transfer to this fund is required as per article 57 section 1, take precedence of the claims of all the other bankruptcy creditors. Among one another they rank equal. As regards the claim of the assured against the other funds of the business, the regulations of special rights as per articles 64, 153, 155, 156, and No. 3 of the regulation of bankruptcy are applied respectively.

Article 62.

The court of bankruptcy has to appoint a guardian for the assured to take care of their rights as per article 61. As regards this guardianship the bankruptcy court takes the place of the court of guardianship.

The duty of the guardian is to ascertain the total amount of the premium reserve fund and the rights accruing therefrom to the assured and to give notice of the same.

The guardian has to give the assured as far as possible a hearing before giving the notice and to inform them of the notification having been made, and on demand give them information on all facts having a bearing upon their claims. The right of giving notice of the individual assured is not affected thereby. If the notice given by an assured is contradictory to the notice given by the guardian the notification more favorable to the assured is legal until the contradiction has been settled.

The receiver has to allow the guardian insight into all books and papers of the common debtor and on demand show him the amount of the premium reserve fund.

The guardian can demand a suitable allowance for the management of his office. The expenses to be returned to him and the allowance are debited to the premium reserve fund.

Before appointing the guardian and fixing the amount of the allowance the authority of supervision has to be consulted.

Article 63.

The regulations of articles 56 to 62 apply respectively to disability and accident assurances as described in article 12.

V.—SUPERVISION OF THE INSURANCE BUSINESSES.

I.—DUTIES AND PRIVILEGES OF THE AUTHORITIES OF SUPERVISION.

Article 64.

It is the duty of the authority of supervision to control the whole business management of the assurance businesses, especially the compliance with the legal requirements and the observation of the business plan. It is authorized to give such instructions which are suited to keep the administration of the business in a line with the legal requirements and the business plan, or to amend such defects which endanger the interests of the assured or bring the business management into variance with good morals. The authority of supervision can keep the owner or business manager of the businesses to the compliance with its regulations issued as per section 1, by fines up to the amount of 1,000 marks. Such fines are collected in the same manner as local taxes.

Article 65.

The authority of supervision is entitled to examine at any time the business management and financial position of a business, also whether the published annual accounts and reports agree with the facts and contents of the books and if the legal reserves exist and have been invested and are managed according to legal requirement.

The owners, managers, representatives, and agents of a business must on demand show to the authority of supervision in their business localities all books, vouchers and such documents as are of importance in forming an opinion of the management of the business and its financial condition, and give every required information as to the course of business and financial position. The regulations of article 64, section 3 apply respectively.

As regards business enterprises having a board of supervision, a meeting of members, or similar society organs, the authority of supervision is entitled to send representatives to the meetings of these organs. These representatives must be given a hearing at any time. The authority of supervision is also entitled to demand the calling in of meetings as well as to give notice of subjects for discussion and resolution and, if its demand is not complied with, to call in itself a meeting or give a notice at the expense of the business. In the meetings which have been called together by the authority of supervision a representative of the latter presides. Managers or officers of public assurance institutions are excluded from representation of the authority of supervision.

Article 66.

The supervision extends also to the liquidation of a business, and the settlement of the assurances in force in case of a prohibition or voluntary discontinuation of the business, or in case of the recall of the concession of a business.

Article 67.

If a business concern continues to act contrary to its duties prescribed by the law or the approved business plan, or if the examination of their administration or financial position reveals such important defects that a continuation of the business would endanger the interest of the assured, or if the administration is contrary to good morals, the authority of supervision is entitled to forbid the business activity with the effect that new assurances can not be closed, existing ones not be raised or prolonged.

In case of the prohibition of further business activity the authority of supervision is entitled to make such arrangements as are necessary in the interest of the assured, for the present security of the capital of the business, especially to transfer the administration of the moneys to suitable parties. The regulations of article 64, section 3, apply respectively.

With combinations of assurance on mutual principles the prohibition to do business has the same effect as a resolution of dissolution. The entry of prohibition in the commercial register is made on receipt of notice from the authority of supervision.

Article 68.

On demand of the authority of supervision the court of bankruptcy has to institute bankruptcy proceedings against the property of an assurance company or an assurance combination on mutual principles, regardless of the regulations in article 107, section 1, of the regulation of bankruptcies. The application for bankruptcy proceedings can only be made by the authority of supervision. The resolution of instituting proceedings can not be contested.

As soon as inability to meet liabilities takes place the board of directors has to notify the authority of supervision. The same applies if the drawing up of the annual balance or an intermediate balance shows an excess of liabilities over assets. This duty of notification takes the place of the duty imposed upon the board of directors by other legal requirements, to apply in bankruptcy in case of inability of meeting liabilities or excess of liabilities over assets. If contributions or levies of assurance combinations on mutual principles with contributions or levies, are not paid within five months after becoming due the board of directors must examine if overindebtedness occurs in case the contributions or levies not received in cash, are left out of consideration. If such an overindebtedness is revealed, notice must be given to the authority of supervision within a month after above period. The same duties are imposed upon the liquidators.

Article 69.

If the examination of the business administration and of the financial position of the business show that it will not be able to continue meeting its liabilities and the interests of the assured seem to demand avoiding a bankruptcy, the authority of supervision can take the steps necessary for this purpose, or ask the representatives of the business to bring about within a certain period an alteration of the basis of the business and to amend other defects. Certain kinds of payments especially distribution of profits and, with life assurances, the surrender of, or loaning on policies, as well as payments in advance on same can be temporarily prohibited.

The suppositions of section 1, part 1, entitle the authority of supervision to reduce, in case of need, in proportion to its funds the liabilities of a life-insurance business arising from its assurances in force, but not by more than 33⅓ per cent.

2.—CONSTITUTION AND PROCEEDING OF THE AUTHORITY OF SUPERVISION.

Article 70.

The Government office for supervision and imperial supervising office for private assurances will be opened in Berlin. It consists of a chairman and the requisite number of permanent and nonpermanent members.

The chairman and the permanent members are nominated by the Federal Council and appointed by the Emperor, the nonpermanent members are elected by the Federal Council. The appointment of the permanent members is for lifetime, excepting certain members, holding some other office in the service of the Empire or a state, who will be appointed for the time of their holding such office.

The other officers are appointed by the Imperial Chancellor.

The members of the supervising authority must not at the same time be managers or officers of a public assurance institution.

Article 71.

To facilitate the business intercourse of the authority of supervision of private assurances with the businesses under their supervision, special commissioners can be appointed, where necessary, by the Imperial Chancellor in agreement with the respective state government, from among the officers of that state who, on behalf of and according to detailed instructions of the authority of supervision will exercise over certain businesses direct supervision.

The regulations of article 70, section 4, apply respectively.

Article 72.

For cooperation in the supervision an advisory board will be formed by the authority of supervision consisting of experts in assurance matters, whose members are nominated by the Federal Council and appointed by the Emperor for five years. The duty of the members of the advisory board of assurance is to act when required as experts to the imperial office in the preparation of important resolutions and to cooperate with the right of voting, in decisions specified in articles 73 to 76.

They hold their office as an honorary one, they receive fees and an allowance for traveling expenses when taking part in meetings at rates determined by the Imperial Chancellor. The regulations of article 16 of the law dealing with the legal position of imperial officers dated the 31st March 1873, (Reichsgesetzblatt, page 61) do not apply to them.

The regulations of article 70, section 4, also apply here respectively.

Article 73.

The authority of supervision for private assurances decides after personal consultation by a quorum of three members, including the chairman, and two members from the advisory board.

(1) As to the grant of concession to do business (articles 4 to 7).

(2) As to the permission of altering the business plan (article 13) in case the authority of supervision should have misgivings.

(3) As to the sanction of an alteration in the business (article 14).

(4) As to the permission for the dissolution of an assurance combination on mutual principles (article 43).

(5) As to the acknowledgment of a combination being a small one (article 53).

(6) As to the issue of an instruction of the kind mentioned in article 64, section 2, in cases where the notification of a fine, as per article 64, section 3, is connected with it.

(7) As to the prohibition of business activity (article 67).

(8) As to the application for bankruptcy proceedings (article 68).

(9) As to the issue of an order of the kind specified in article 69, section 1, part 2, and section 2.

The calling in of the members of the assurance advisory board is as a rule done successively according to list drawn up in advance (article 80). If the president of the imperial office deviates for certain reasons from this order of succession, this has to be placed on record.

The regulations of the code of civil suits regarding exclusion and refusal of members of courts, apply upon all parties appointed to cooperate in the decision.

Before giving a negative decision in cases of Nos. 1 to 5 and before a decision in the cases Nos. 6 to 9, the representatives of the respective businesses are to be heard and at their request be invited for personal negotiation.

Negative decisions in the cases 1 to 5 and decisions in the cases Nos. 6 to 9 must be given stating the reasons.

In the cases Nos. 1 to 3, the chairman of the imperial office can issue in advance a negative decision; protest against a decision to be given in accordance with articles 1 to 5 must be made within two weeks after receipt.

All decisions have to be communicated to those concerned. The legally given concession to do business, and the sanction of a transfer of the insurance in force, as well as the prohibition to continue business, have to be made public by the authority of supervision in the Reichsanzeiger.

Article 74.

Against decisions given in accordance with article 73, section 1, those concerned can file a protest. Only the board of directors of the combination are considered as parties concerned in case of article 73, section 1, No. 4, if the sanction of a resolution to dissolve has been refused; if the resolution to dissolve has been approved, only those members of the supreme organ who have had their contradiction to the resolution to dissolve entered in the minutes. In case of article 73, section 1, No. 5, only the board of directors of the combination is considered concerned contrary to whose application the acknowledgment of the combination as a small one has been refused.

As to the claim the authority of supervision of private assurances decides through three members, including the chairman, calling in two members of the advisory board as well as a legal officer and a member of one of the highest courts of administration in a German state.

The legal officers as well as the members of the highest courts of administration are proposed by the Federal Council and appointed by the Emperor for the duration of their principal office.

As regards calling in the members of the advisory board the regulations of article 73, section 2, as regards the exclusion or refusal of parties called upon to cooperate in decisions the regulations of article 73, section 3, apply.

Article 75.

The protest has to be deposited in writing, stating reasons, with the authority for supervision of private assurance, within a month after receipt of the decision.

The protest against instructions given by the authority of supervision in accordance with article 67, section 2, or article 69, section 1, part 2, and against the decision to apply in bankruptcy has no delaying effect. The authority of supervision for private assurance has to advise the court of bankruptcy of a cancellation of the decision to apply in bankruptcy. The bankruptcy court has to stay the proceedings.

In the decision as to the protest those who cooperated in the decision protested against, must not take part excepting the president of the imperial office.

The president of the imperial office appoints a first and a second reporter, one reporter must be appointed from among the judges or the members of one of the highest courts of administration.

The decision takes place, after summons of those concerned, on the basis of verbal and public discussion. The publicity may be excluded for reasons of article 173 of the law of the constitution of courts.

Article 76.

Against a notification of a fine, issued by the authority of supervision for private assurance, in accordance with article 65, section 2, article 67, section 2, or article 79, the party concerned has the right of protest within two weeks after receipt. As regards the protest the imperial office decides, constituted as per article 73.

Article 77.

So far as a resort to the law is not expressly admitted in this law, the parties concerned have not the right to it as regards demands or decisions of the imperial office for supervision of private assurance.

Article 78.

The imperial office can institute any proof which it considers requisite, and examine or cause to be examined witnesses and experts, also putting them under oath.

Article 79.

The courts and other public bodies are bound to comply with any request addressed to them in the execution of this law. The requests for examination under oath must be directed to those authorities in the state which are authorized to examine witnesses and experts under oath. For expenditure in judicial assistance the authority applied to, has to be refunded for its cash expenses, as specified in article 79 of the law of court expenses.

Article 80.

The number and the calling in of the nonpermanent members, the manner of the procedure and the business course of the imperial office as well as the composition of the advisory board and the calling in of its members will be regulated by imperial order, with agreement of the Federal Council, so far as this law does not contain regulations. The imperial order will be brought to the notice of the Imperial Parliament at the next meeting.

Article 81.

The expenses for the imperial office of private assurance and the procedure before said office is borne by the Imperial Government.

As fees for the supervision of the imperial office, annual contributions will be charged the assurance businesses placed under its supervision, calculating same upon the gross premiums (contributions, levies paid in advance or otherwise shares in the expenditure), deducting the returned surplus, or shares in the profit—received from the business done in the country within the last business year. Such contribution, however, must not exceed 1 per mille. After consultation with the advisory board the Federal Council is empowered to decide some other mode of distribution.

The total amount of the fees shall approximately amount to half of the regular expenses apportioned for this office in the last budget.

The distribution of the fees is attended to by the imperial office, which applies to the businesses, adding a plan of the distribution, for payment of the fees to the "Reichshauptcasse" within a month. After expiration of this period the fees can be collected according to the regulations in force for the collection of official taxes.

Article 82.

The imperial office can put the cash expenditure, either wholly or partly, upon the applicants, in cases where proceedings for proof have been caused by unjustified applications or complaints, as well as through unsuccessful resort to the law.

Article 83.

The imperial office publishes annually a report of the position of the assurance businesses under its supervision as well as its observations in the province of assurance business.

The imperial office also publishes continuously the principles of law and administration within its sphere of activity.

Article 84.

Decisions of the supervising authorities of the state, dealing with matters designated in article 73, section 1, can be contested within a month of their receipt, in the manner of disputes of administration (Verwaltungsstreitverfahren) or where this regulation does not exist, by way of a protest according to the requirements of articles 20 and 21 of the regulations of trade (Gewerbeordnung).

Otherwise the laws of the respective states apply to the proceeding of the state authorities in their execution of supervision.

VI.—FOREIGN ASSURANCE COMPANIES.

Article 85.

Foreign assurance businesses, intending to carry on an assurance business in the country through representatives, attorneys, agents or other intermediators need a permission for that purpose.

The regulations of this law apply to them if articles 86 and 91 do not prescribe differently.

Article 86.

The decision on the application for concession is exclusively reserved for the Imperial Chancellor.

The concession may only be given if—

(1) The imperial office of supervision of private assurances gives its expert opinion, after consultation with the advisory board, to the effect that none of the reasons exist for refusal of the concession as given in article 7.

(2) The assurance business proves that at the head office of the business it can acquire rights in its own name, contract liabilities, appear in court as plaintiff and defendant.

(3) The business binds itself to keep a branch within the Empire and to appoint for the country (Germany) a head attorney who resides within the Empire. The head attorney is considered empowered to represent the business especially to close assurance contracts with assurants in the home district (Germany) with binding effect, also to receive all summons and instructions for the business.

In other cases the Imperial Chancellor decides according to his own opinion.

Article 87.

Foreign assurance companies, admitted to do business in the country (Germany), may close assurance contracts with assurants, residing ordinarily in the home district, or assurance contracts of real estate in the home district, only through representatives residing in the country (inland).

Article 88.

The duties under this law of the owners or representatives of a home office, have to be carried out by the authorized head representative for the Empire of a foreign business.

Article 89.

Complaints arising against the business from assurance contracts in the home district appertain to the court in whose district the branch is located (sections 2 and 3 of article 86). This court may not be excluded by contract (agreement).

Article 90.

The regulations of article 56, section 1, part 1, of article 57 and sections 2 and 3 and the articles 58 to 63 apply to foreign businesses only in so far as assurances closed in the home district are concerned.

The premium reserve fund for these assurances is to be secured, according to instructions to be particularized by the imperial office of supervision for private assurances, in the manner that it can be disposed of only in agreement with the said office.

Article 91.

The supervision of the foreign assurance businesses which have been admitted, is carried out by the office of supervision for private assurances according to this law. By request of the Imperial Chancellor the Federal Council can also on its own free decision, determine upon the cancellation of the concession of admitted foreign offices. The execution of such a resolution lies with the imperial office for supervision of private assurances.

VII.—REGULATIONS FOR THE INTERMEDIATE PERIOD.

Article 92.

The assurance businesses entitled to do business in one or more states of the Empire, at the time of this law coming into force, do not require a concession according to this law for the continuation of their business within the limits hitherto granted them, or if their right to do business is based on a special concession, within their previously admitted limits.

Article 93.

Those German businesses, authorized to do business, whose business extends beyond the limits of one state in the Empire at the time of the law coming into force, or which have the concession for such business, are subject to the supervision of the imperial office of supervision for private assurances; the supervision of the other German businesses is executed by the authority of the state.

Article 94.

At the expiration of a concession given according to the laws of a state for a certain period, the concession of a new admission has to be given by the imperial office of supervision, according to the requirements of this law.

If the period of concession granted for a fixed period does not amount to more than six months at the time of this law coming into force, the duration of concession is prolonged for one year.

Article 95.

If the admission of a business is subject to a concession which can be recalled, the execution of the recall lies with the free decision of the authority of supervision, so long as the business has not obtained the permission to do business according to the requirements of this law.

Article 96.

Assurance businesses which are entitled to do business in one or more states of the Empire at the time of this law coming into force can at any time apply for admission according to the requirements of this law. For the extension of their business to the other states in the Empire the concession of the imperial office for supervision of private assurances is required.

Article 97.

Where the supervision is transferred from the authorities of a state to the imperial office of supervision of private assurances, all rights and duties are legally transferred to the same which arose to the government of the state from the giving of guaranties, deposits, entry of debentures in a government debt register or the imperial debt register, or other measures of security.

In the above-mentioned cases the keeping and administration of the existing guaranties is, if requested, to be continued by the state authorities for the present, but for no longer than five years.

Article 98.

The assurance businesses already admitted have to make the requisite statements (articles 4 to 12) for the explanation of their business plan on request of the authority of supervision within a period fixed by the same. The requirements of article 64, section 3, apply respectively.

Article 99.

The requirements of articles 56 to 63 come into force for the businesses already admitted as regards the premium reserve of those life assurances and disability or accident assurances, designated in article 12, which are closed after this law has come into force.

The premium reserve on the assurances closed previously are to be separated amounting to the legally calculated liability, from the other funds of the business, within three years after this law has come into force, and to be transferred to the premium reserve fund formed according to section 1, and to be kept, entered in the books and administered, according to article 57 and article 61, section 1. As an exception this period can be prolonged for a business by the Imperial Chancellor on application of the government of that state in whose district the business has its seat; such a prolongation of the period is to be published by the Imperial Chancellor in the Reichsanzeiger.

The requirements of article 61, sections 2 and 3, and article 62 come into force for the whole of the premium reserve fund (sections 1 and 2) on expiration of three years after this law has come into force, or on expiration of the period prolonged by the Imperial Chancellor as per section 2, part 2, unless they have come into force on application of a business to the authority of supervision at an earlier period fixed by same and published in the Reichsanzeiger.

The investment of the premium reserves in the manner required by articles 59 and 60 for the older assurances has to be carried into effect within a period of five years. As regards certain portions of the premium reserves, exceptions can be allowed by the authority of supervision.

Article 100.

If the authority of supervision does not consider the premium reserve sufficient for securing a continuous compliance of the liabilities arising from the assurance contract, it can grant a suitable period for the alteration of the mathematical principles or adoption of other amendments of the defects, reserving its right of interference as per articles 67 to 69.

Article 101.

Combinations which at the time of this law coming into force carry on the assurance of their members on the mutual principle and have legal rights, are subject to the requirements of this law as to combinations of assurances on the mutual principle, Part III, excepting the regulations as to the formation of a foundation and a reserve fund.

Articles 30 to 33 apply respectively to the notification and entry of these combinations..

The authority of supervision, on expiration of the term fixed as per article 98, has to advise, for the entry on the commercial register, the courts of the existence of those combinations which are subject to the duty of entry.

Article 102.

The requirements of Part III do not apply to such registered associations and such existing registered unions as per Saxon law of 15th June, 1868, regarding judicial persons, which carry on the assurance of the members on mutual principles.

The requirements of article 68, sections 1 and 2, parts 1 to 3 and 5 apply to the associations and combinations designated in section 1; the requirements of article 16, and section 2, part 4 of article 68 also apply respectively to said combinations.

Article 103.

The requirements of Part III do not apply to combinations which, without having legal rights, carry on the assurance of their members on the basis of mutuality at the time of this law coming into force. Such combinations can be called upon by the authority of supervision to apply within a certain period for their admission according to the requirements of this law, the period to be at least six months. If a combination does not comply with such a demand, the authority of supervision is justified to prohibit further continuation of the business; the requirements of sections 1 to 5 of article 73, and articles 74 and 75 apply respectively to the prohibition of the business activity

Article 104.

The requirements of this law do not apply to assurances which at the time of the law coming into force are in liquidation or bankruptcy.

VIII.—REGULATIONS FOR FINES.

Article 105.

Whoever makes false statements before the authority of supervision in order to obtain the concession of an assurance business, or the prolongation of a concession, or the permission for an alteration of the business principles, or transfer of the assurance in force (article 14), is punished with imprisonment and also fined up to 20,000 marks.

The loss of civil honorary rights can also be inflicted.

If there are extenuating circumstances an exclusive money fine can be inflicted.

Article 106.

The members of the board of direction, or supervision, or a similar organ, as well as the liquidators of an assurance company, or an assurance combination on mutual principles can be punished with imprisonment up to six months and at the same time with a fine up to 2,000 marks or with either of these punishments if they knowingly:

(1) Have proposed or admitted a distribution of profits contrary to the requirements of law or the statutes regarding the formation of reserve.

(2) Acted contrary to the legal requirements as to the calculation and entry, administration and keeping of the premium reserve (articles 56 to 61, 63, 99).

(3) Acted contrary to the statutory requirements for the investment of money.

Article 107.

Experts who have to examine the calculation of the premium reserves of life, disability, or accident assurances, are punished with imprisonment and at the same time a fine up to 20,000 marks, if they have knowingly given a wrong declaration as to the statement of capital required by article 56, section 2.

The loss of civil honorary rights can also be inflicted.

If there are extenuating circumstances an exclusive money fine can be inflicted.

Article 108.

Whoever carries on the insurance business in the home district (Germany) without the required permission, is punished with a fine up to 1,000 marks, or arrest, or imprisonment up to three months. The same punishment meets those who close assurances in the home district for a business not admitted there, as a representative or attorney or who act as an agent in the closing of assurance contracts.

The regulations of No. 9 of article 360 of the penal code are canceled so far as they refer to assurance businesses in the sense of this law.

Article 109.

The members of the board of directors, or the liquidators of the business of an assurance company, or an assurance combination on mutual principles, or a registered association, or a union of the kind described in article 102, will be punished with imprisonment up to three months, and at the same time with a fine up to 5,000 marks, if, contrary to the requirements of article 68, section 2, one of the notifications to the authority of supervision therein prescribed have not been made.

If there are extenuating circumstances only a fine is inflicted.

A party of whom can be ascertained that the omission of the notification has occurred without his fault, is not punished or fined.

Article 110.

The members of the board of directors, or board of supervision, or a similar organ, as well as the liquidators of an assurance combination on mutual principles are punished with imprisonment and at the same time with a fine up to 20,000 marks if they act intentionally against the interests of the business.

The loss of civil rights can also be inflicted.

In case of extenuating circumstances a money fine can be inflicted exclusively.

Article 111.

The members of the board of directors, or a board of supervision, or a similar organ, as well as the liquidators of an assurance combination on mutual principles, are punished with imprisonment up to one year and at the same time with a fine up to 20,000 marks, if in their statements, specification as to the capital of the combination, or in their reports to the highest organ, they describe wrongly, or hide the position of the combination.

The loss of civil rights can also be inflicted.

In case of extenuating circumstances a money fine can be inflicted exclusively.

Article 112.

The regulations of article 239 to 241 of the law of bankruptcy apply to the members of the board of directors and the liquidators of an assurance combination on mutual principles which have stopped payment, or about whose affairs bankruptcy proceedings have been opened, if in the capacity of their office they have committed such actions as are punishable according to the above regulations.

Article 113.

The regulations of articles 106, 109, to 112 apply also to the members of a board of directors or a board of supervision or similar organs, as well as the liquidators, of such a combination which is considered, in the sense of the law, an assurance combination on mutual principles according to article 101.

IX.—FINAL REGULATIONS.

Article 114.

The Federal Council after consultation with the advisory board can issue instructions for the execution of this law. It can regulate the form and manner of the rendering of accounts of the businesses, and state under what particular suppositions an assurance combination on mutual principles is to be considered a small combination in the sense of article 53.

Article 115.

The board of directors of an assurance business, whose business extends beyond the limit of one state, has to advise the central authorities of those states, in whose district it intends to do business, of the commencement of such transactions. Every assurance business must appoint a head representative in those states where it does business, unless its seat is in this state, if required by the central authorities of the state, provided the business in the state is of such importance, or according to the business plan can reach such importance, that the appointment of a head representative is justified. If the business denies the existence of these suppositions then the decision remains with the Federal Council on the basis of the proofs put before same, its demand can be made by the central authorities of several states for the appointment of one common head representative. The head representative must have his residence in the respective state or the combined states respectively. He is considered empowered to represent the business, especially to close assurances with assurants in the state, or in the combined states respectively, and to make binding contracts about real estate located there; also to receive all summonses and instructions for the business. In order to close life-assurance contracts, however, the previous sanction of the head office of the business is requisite, which must be expressed in the contract.

Summonses which are issued against the business arising from assurance operations in the district of the state, or the combined states respectively, belong before the court of that place where the head representative resides. This court must not be excluded by contract (agreement).

Article 116.

Businesses whose object is the assurance against loss of exchange, or transport, or only re-assurance, excepting the business combinations on mutual principles, do not require a concession. Neither are they subject in their business conduct of the supervision of the authorities; the Federal Council can however instruct certain requirements of this law to be also made applicable to such businesses.

Article 117.

By resolution of the Federal Council it can be demanded:

(1) That the regulations of article 6, section 2, are applied to other branches of assurance than therein specified.

(2) That the regulations of this law are not applied, either wholly or in part, to branches of assurance, to which the regulations of article 6, section 2 do not extend.

Article 118.

All the businesses which are subject according to this law to the supervision, are bound to hand to the authority of supervision for private assurance the necessary statistical data of their business. As to the further requirements of statistical proofs the advisory board has to be consulted.

Article 119.

The public assurance institutes, organized by regulations of the laws of the states, do not become subject to the regulations of this law; they are, however, obliged to hand to the imperial office of supervision for private assurance such statistical data as to their business as will be specified by the Federal Council.

Article 120.

The laws of a state, reserving to public institutions the right of carrying on certain assurance branches, is not affected by the above.

Article 121.

The regulations of the state as to the police supervision of fire-insurance contracts, when being closed, or the payments for damages by fire, are not affected; the regulations of the law, however, are canceled hereby, which make the closing of fire-insurance contracts subject to permission by the police, also the regulations of the state, forbidding the direct contract of fire assurances with such agencies, which are not in the district of that state.

Furthermore there are not affected the regulation of the state, and the agreements made with the authorities of the state, as to the obligations of fire-insurance businesses regarding their contributions to taxes for commonly useful purposes, especially for the advance of fire-extinguishing organizations, or for assistance of members of fire brigades, or other assistance to parties who have met with accidents in cases of fire, or their heirs.

There is not affected the obligation which fire-insurance businesses have after the 1st of January, 1901, to take over certain assurances in a state according to local law or on the strength of agreements with the authorities of the respective state, in case the business continues trading in the state or obtains admission according to this law. The compliance with these obligations will be controlled by the authority of supervision according to the regulations of this law.

Article 122.

The requirements of this law do not apply to the societies organized in accordance with the law of registered friendly societies of 7th April, 1876 (Reichsgesetzblatt, p. 125), as per the wording of the law of 1st June, 1864 (Reichsgesetzblatt, p. 54), the societies, organized on the strength of the regulations of state described in article 75, section 4, of the law of assurance against disability, the friendly societies, organized in accordance with the trade regulations of guilds, or guild combinations, as well as the societies for miners, organized on the basis of the regulations for mines.

Article 123.

The requirements of article 39, section 3, do not apply to insurance companies.

Article 124.

The authority of supervision can make exception from the requirements of articles 11, 12, 55 to 57 for combinations on mutual principles, which are not subject to the duty of registration, as regards the concession, the business administration and the rendering of accounts.

As far as these alterations refer to the business administration or the rendering of accounts they can be made dependent upon an examination of the business administration and the financial position by an expert, in periods of several years, at the expense of the combination, and the report of examination being handed to the authority of supervision.

Article 125.

The regulations of articles 70, and 98, section 1, and of article 101, section 3, come into force on the 1st July, 1901.

By that time those authorities of the states authorized with the control of assurance businesses, will be designated by the governments of the states.

As to the other, the time when the law comes into force will be determined by an imperial order, with agreement of the Federal Council.

As regards the Kingdom of Bavaria, so far as it affects the assurance of immovables (Immobiliar Versicherungswesen) the law comes into force only with agreement of the Royal Bavarian Government.

In witness whereof, etc., etc., etc.

Given at Hohkönigsburg, 12th May, 1901.

[L. S.] (Signed) WILHELM.

(Countersigned)
GRAF VON BÜLOW.

THE FIREMEN'S EXHIBITION AT BERLIN.

The international exposition of fire preventing and extinguishing appliances, which opened at Berlin on the 26th of May last, closed on the 15th of September. Although in its nature more or less technical, and appealing specially to persons directly interested in fire insurance, architecture, and the saving of life and property from fire, the exposition has been popularly successful, and attracted throughout the summer a steady and fairly numerous attendance.

It has occupied a group of specially constructed buildings favorably located in a western suburb of the city, and surrounded by ample space for special constructions designed to exhibit fireproof materials or details of buildings. In the rear of the main machinery building were two structures in the form of towers—one of wood six stories in height, the other of masonry and somewhat lower—which have been used in the illustrative and competitive tests by firemen of different cities and nationalities in various exercises of climbing, water throwing, and the rescue of inmates by means of ladders, rope and baskets, and other devices. The exposition has been rendered attractive by music, restaurants, electric illumination, and especially by daily competitions and tests of various kinds, for which a large space flanked by tiers of seats was provided.

Notwithstanding the early official publicity which was given in the United States to this enterprise,* it failed to attract more than four distinctively American exhibits, the most important of which was the very complete and handsome display made by the Gamewell Fire Alarm Telegraph Company, of New York. Messrs. D. W. Dipps & Co., of New York, exhibited an extinguisher and life-saving apparatus and Fyriside & Co. a chemical extinguisher; but in the whole exhibition, which comprised 680 numbers—each of which has stood for the collective exhibits of a firm or company and included in many instances a great many different articles—there was no American fire engine, hose cart, or hook-and-ladder apparatus; no American fire company or engine squad competed for the prizes, such as were so decisively won by our firemen at Paris the year before.

---

*ADVANCE SHEETS NOS. 803, 817, 921, and 1008 (CONSULAR REPORTS NOS. 241, 242, 246, and 249).

This indifference of American exhibitors, who are known to represent the highest development of fire-extinguishing machinery, was a real disappointment to the managers of this exposition, but can be explained mainly by the fact that many of them had made large expenditures for exhibition at Paris last year, or were busy this year with the Pan-American display, and did not feel disposed to make an additional exhibition at Berlin.

To what extent they have thereby lost a valuable opportunity is a point upon which expert opinion is somewhat disagreed. It needed but a glance at this exposition to show that, complete and admirable as it was in many features, it represented machinery and methods adapted to conditions which are radically different from those which exist in the United States. The engines, both hand and steam—for the hand-driven pumping engine still plays an important part in small European towns—are much smaller than those in use with us. Such steam fire engines as made any pretense to high power were enormously heavy in proportion to their water delivery, and nowhere in the exposition was there any provision for fighting fire above the altitude of a five-story building.

The exposition as a whole was especially strong in portable extension ladders, of which there were many types, worked by hand, compressed air, and other means. Several of these, working to a height of 65 and 70 feet, are quick, easy, and sure in action, and the contests among ladder companies brought out some very creditable and efficient work.

Another notable feature of the exposition was the vast and elaborate display of sanitary appliances, including everything requisite for rescuing people from burning buildings, resuscitating them when suffocated, and the treatment of wounds, burns, broken bones, and every other form of personal injury incident to fires. In this department were exhibited several surgical operating rooms equipped with Rœntgen lights and every other appliance of modern antiseptic surgery.

An American visiting this exposition without any special antecedent knowledge of the conditions and methods of fire extinguishment in Europe would be likely to have brought away certain very distinct impressions. The first of these would have been the discovery that hand labor plays a far more important part in the economy of fire control in Europe than in the United States. Here were hand fire engines, not only of old and primitive patterns as historical relics, but new and of handsome construction, in all the glory of gilding, paint, and polished metal, machines which have been obsolete in all except remote country towns of the United States for more than a quarter of a century, but which still form part of the equipment of large European cities. Hand stretchers, two-wheeled ambulance couches for propulsion by hand, and a number of other fixtures show that the age of labor-saving machinery by horse, steam, and electric power has not yet come in these older countries. Secondly, all vehicles, hose carts, ladder wagons, steam and chemical engines are, in respect to running gear, far heavier and more clumsy than those in use in the United States. The fire engines themselves, in point of boiler capacity, pump efficiency, and engine energy are smaller by half than those of American types; but the wheels, axles, and frames on which they run are of great weight and solidity. It is to be said, of course, that the American engine must run farther, faster, and to a much greater number of more dangerous fires than the European, and that they do wear out in a few years, while the German or Austrian or Russian built fire engine should last for generations.

There were in the whole exposition but two locomobile fire engines, but these were of excellent model and efficiency, and were exhibited by a German maker.

Finally, the impression is everywhere enforced that all this paraphernalia is designed for and adapted to the requirements of cities and towns in which the buildings are practically fireproof, and in which a large majority of such conflagrations as do occur are confined to the room, or at worst to the floor, in which they originate. The wooden-built, shingle-roofed dwelling, the interurban lumber yard and planing mill, the frame block with wooden stairways—all these are unknown in these older countries, and the peril of conflagration in cities and towns is correspondingly decreased.

The most valuable result that has been accomplished by the exposition has unquestionably been its efficiency as a meeting ground for persons and delegations especially interested in insurance, architecture, and fire-department administration. Nearly every city or large town in continental Europe sent its chief of fire department, its mayor or other municipal official to study the systems and apparatus employed by other and more advanced municipalities.

Engines, ladder equipments, and other highly improved apparatus have been sold many times over from samples exhibited here, and it is notable that these sales reach to the remotest corners of Russia and the Balkan States. Fire companies from Rome, Milan, Vienna, and Budapest have shown their efficiency of drill and service in competition with the firemen of Berlin, Hamburg, and Leipzig. Even Japan sent an expert delegate, who took an active and interested part in the proceedings.

A highly interesting department was that devoted to street-cleaning machinery, in which Germany—especially the municipality of Berlin—holds a very advanced position. Here was a display which included automatic street-sweeping machines of many kinds, sprinkling carts, dustless ash and refuse wagons, and other paraphernalia which Americans might have advantageously studied. Asbestus, fireproof glass and cement plates and blocks of many different kinds and materials, and at least a dozen different methods of rendering wood practically noncombustible by impregnation—all these contributed to enlarge the scope and educational interest of the exposition.

Especially noteworthy were the fine displays made by the Russian, Italian, and Austrian Governments. These included not only a full exhibit of the engines, ladders, ambulances, and other apparatus used in Vienna, Moscow, St. Petersburg, and Rome, but enormous maps showing the whole territory of a kingdom or empire, marked with the location of each fire district. To this was added a large and very interesting department of statistics, in which were shown the percentages of losses of life and property by fire, the accounts paid for insurance, the increased security of modern municipal property through fireproof construction and efficient protective service, and other kindred topics.

The exposition, after three and a half months of interesting and useful activity, closed with a generous distribution of prizes, medals, and diplomas, two of the most important of which were awarded to the historical museums of Vienna and Munich, and a general exchange of international greetings and congratulations. Of the practical educational value of such a specialized exposition there can be no reasonable doubt, and it is to be hoped that whenever or wherever the second international exhibition of fire preventing and extinguishing appliances may be opened, the United States will be represented in a manner befitting the high standard of fire-department service and the importance of the whole subject in our own country.

FRANK H. MASON,
Consul-Ger al.

BERLIN, *September 17, 1901.*
No 255—01——3

AMERICAN BUSINESS METHODS IN EUROPE.

The following extracts from a letter written to me by the American Trading Company, of this city (Amsterdam), speak for themselves:

> One of the reasons for the small sale of American furniture and other manufactures in Holland and European countries in general is the slow delivery, owing to the absence of stock in the factories.
>
> We ordered, on February 12 of this year, a few gross of cots from a Wisconsin firm, and sold out in the meantime our old stock, expecting the new supply at the beginning of July. As we did not hear anything from the firm, we cabled in August and received a letter saying that the company would start work on our order. We had booked a number of orders from here and from Germany and France for those cots, and we can not supply them.
>
> The same happened with office desks. Our desk man promised to ship the 400 desks ordered about August 10 to 15. At the end of August, we received a cablegram to instruct our banker to pay against shipment documents. We cabled our New York banker the same day, but no desk has been shipped yet. These matters speak for themselves.
>
> As to European imitations of American specialties, we can state that they are not cheaper than American goods, and are of very bad workmanship. But we are sure, if we showed this people their faults and supported the home trade, they would work as well as manufacturers in the United States, and we would not need to send money three months before we saw the goods; on the contrary, we would pay three months after invoice.
>
> Again, we received 100 cash registers, which we dispatched directly from the steamer to a customer in Germany. Nearly all arrived broken, so that he refused the shipment. The goods are warehoused for our account in Germany, the German duty is paid, and we do not know what to do, because the goods were paid for a long time ago in America. The American manufacturer will not give us any allowance, and our German customer has the right to refuse the registers. This means a loss for us of about 6,000 florins ($2,400), and it does not encourage us to do further trade with that firm.
>
> We have had an offer from a British house to take goods on consignment. The managers propose to send us stock and to pay for all advertising. That would be the way for Americans to do business. United States manufacturers do not understand how to treat European dealers. We never receive the goods at the right time; we also think, if we give bankers' guaranty in New York, the manufacturers could take the risk of sending the goods payable against shipment documents in Holland, instead of New York.
>
> We do not think American exporters will ever be willing to send stock on consignment, but it would be to their interest to keep samples in Europe, and Amsterdam would be the right place, being on the seacoast and the center of a neutral country.
>
> We are sure, if we could keep a permanent exhibition of American goods here, large buyers of Europe would come to examine them, and much trade could be done. We would be prepared to give American manufacturers every security.

The fact noted in this letter that the Netherlands is a "neutral" country is very important. There is no identity of interest between the Netherlands and any other European country; consequently, her tariff system is not likely to be affected by any legislation on the part of her neighbors; and as she is not an industrial or manufacturing nation to any extent and her interests are almost exclusively commercial, her policy is not expected to be unfavorable to the entrance of American or any other imports.

FRANK D. HILL,
Consul.

AMSTERDAM, *September 25, 1901.*

Under date of September 26, the consul adds:

I have received from Holcombe & Mulford, American merchants of New York and Amsterdam, a statement concerning American office furniture. Mr. Holcombe says:

> There are several American office-furniture houses doing business in this country at present. We are placing agents, working both here and in America, and are endeavoring to bring the manufacturer in touch with the wholesaler; in many cases arranging for sole agencies for a provisional length of time, with the understanding that at the expiration of said period the buyer will contract to take a certain amount from the manufacturer during the first year. A number of merchants here pay cash against documents or accept draft at thirty days' sight. Matters are greatly helped in the office-furniture business if a list of shipping weights is furnished the people here, and cubic measurements; in this case, the cubic schedule is most generally used. It is also of great value that prices be quoted c. i. f. Rotterdam. In catalogues, office furniture should be kept separate from other lines, as here they are distinct. Office furniture should not be too high priced, and all particulars should be given.

In the matter of introducing lumber from the United States, the same gentleman writes me:

> The entrance duty averages about 5 per cent. There is no differential duty on goods in bond or to be transshipped, and there is no occasion for transshipment, as there are several direct lines from the United States to Holland. I am confident that there is a good market here for certain kinds of lumber, if these can compete with German goods. Lumber comes into this country mostly in squares, and is resawed here.

The question of price is the prime consideration, Germany being able to land goods here cheaply.

AMERICAN VS. GERMAN STEEL PENS.

Steel writing pens are manufactured in this country in large quantities. There are two factories in this city, both of which do a very extensive business.

In spite of a duty of 60 marks per 210 pounds, there were 561,000 marks' ($133,518) worth of pens imported into Germany during the first half of 1901, or an increase of about 4.2 per cent over the same period of last year. Of the total, 97 per cent came from England and 1.6 per cent from France.

During the first six months of 1901, 126,000 marks' ($29,988) worth of pens were exported from this country, against 116,000 marks ($27,608) for the same period last year, which shows a gain of about 8.6 per cent in value. The largest shipments were made to Austria-Hungary, Switzerland, and Mexico.

In a recent conversation, a pen manufacturer told me that the Germans were finding it more and more difficult to compete with American pens in Mexico and the South American countries. Have our manufacturers ever made an attempt to introduce their pens into Germany, England, or France? If we can outstrip competitors in neutral countries, should we not try to do the same in their home markets?

BRAINARD H. WARNER, Jr.,
LEIPZIG, *September 25, 1901.* *Consul.*

COMMERCE OF HAMBURG WITH CUBA.

Advices from Hamburg state that Cuban purchases of German goods, since the cessation of hostilities, have increased considerably. During the years 1895, 1896, and 1897, Hamburg shipped to Cuba between $470,000 and $700,000 worth each year; in 1898, $400,000: in 1899, $1,400,000; and in 1900, goods to the value of over $2,000,000. Statistics of Hamburg exports to Cuba cover no less than 130 groups of goods. Exports of rice increased from $261,000 in 1889 to $785,000 in 1900; articles of iron, from $166,000 to $190,000; malt, from $14,000 to $36,000; cotton goods, from $35,000 to $66,700; hosiery, from $117,000 to $120,000; passementerie goods, from $28,000 to $45,700; paper, from $48,000 to $77,800; toys, from $43,000 to $55,700; etc.

The exports from Cuba to Hamburg have increased also. They fell from $3,800,000 in 1895 to $1,590,000 in 1898, but rose to $3,000,000 in 1899 and to $3,142,000 in 1900. Cigars and tobacco are the principal exports; wax, woods, and hides are also sent.

RICHARD GUENTHER,
FRANKFORT, *September 10, 1901.* *Consul-General.*

EXHIBITION IN CORK.

A note from the secretary of the British embassy, dated Newport, October 1, 1901, informs the Department that an exhibition will be held during the coming year at Cork, Ireland, for the purpose of promoting the industries of that country. The hope is expressed that an exhibit, representative of the United States, may be sent by the Government. The letter addressed by the Irish department of agriculture to the Foreign Office is inclosed, which reads as follows:

IRISH DEPARTMENT OF AGRICULTURE AND TECHNICAL INSTRUCTION TO FOREIGN OFFICE.

UPPER MERRION STREET,
Dublin, September 3, 1901.

SIR: I am directed by the vice-president to acquaint you, for the information of the Secretary of State for Foreign Affairs, that arrangements are now in progress to hold in Cork, during the coming year, an exhibition for the purpose of stimulating the growth and improvement of manufacturing, agricultural, and other industries and handicrafts throughout this country. This project has been received with favor in all the industrial centers of Ireland, and the measure of support already accorded to the undertaking has been of such a nature as to remove any doubts regarding its ultimate success, so far as the cordial cooperation of all classes of the community can contribute toward that end. The department was approached with a view to secure their assistance and active cooperation in the task of organizing the exhibition, and to make the project directly subserve their work in connection with agricultural and industrial development, they decided to subsidize the exhibition to a considerable amount on condition that its general scope met with their approval, and that they had effective control as to the manner in which the money was to be applied. The success of the undertaking is, accordingly, a matter in which the department are deeply concerned. It will be necessary for them to exercise a general supervision over the several sections of the exhibition, and, with a view to the promotion of, perhaps, the most important side of their work, the department are about to take steps for the organization of an exhibit mainly on educational lines.

It is now considered desirable that an effort should be made to insure that the character of the entire undertaking should be as representative of industrial progress as circumstances will permit, and with this object in view it has been arranged that any foreign countries desiring to participate will be afforded, free of charge, sites for the erection of their respective pavilions.

The vice-president will deem it a favor if the Secretary of State will be so good as to cause the governments of the several European countries and the United States of America to be advised of the obligations which they would confer upon the department by consenting to arrange for the forwarding of a representative exhibit to the industrial exhibition to be opened at Cork in the month of May next.

I am, etc.,

T. P. GILL, *Secretary.*

PARIS EXHIBITION OF ALCOHOL-CONSUMING APPARATUS.

The enormous production of alcohol in France has led M. Jean Dupuy, Minister of Agriculture, to offer a series of prizes for any kind of apparatus or machinery that will open a way for its greater consumption. An exhibition of inventions for the use of alcohol for illuminating or heating purposes or for motor power will be given in Paris in the grand palace of the exposition, Champs Elysées, from November 16 to 24. It is proposed to apply motor power to agricultural implements, under the direction of the Department of Agriculture. The prizes awarded will consist of a series of medals.

The exhibition and experiments will be divided into three classes:

First. Stationary motors; motors for navigation; locomobiles and motors for working pumps; automobiles under 25 horsepower; insulated carburetors.

Second. Incandescent lighting, divided into two classes: (1) Apparatus using pure medicated alcohol; (2) apparatus using carbureted alcohol.

Third. Heating apartments; bath houses and hothouses for flowers; chafing dishes, dish warmers, flat-iron heaters, curling irons, lamps, etc.

The minister does not state whether the citizens of other countries will be permitted to compete for the prizes, but, in any case, the presence of Americans in Paris with their apparatus for the consumption of alcohol would furnish a good opportunity for introducing their goods into the French market.

A recent law has entirely removed from wine and beer the high tax formerly levied upon those drinks when they were brought into a city. One of the means adopted to make up for the deficit caused by the abolition of the gate tax was the imposition of a tax of 220 francs ($42.46) per hectoliter (26.417 gallons) of alcohol, in place of the old tax of 56 francs ($10.80) per hectoliter. There is also an additional tax in the cities, according to their population. In Lyons it is 100 francs ($19.30) per hectoliter, making 250 francs ($48.25), which goes to the State. Besides this, there is a gate tax in Lyons of 30 francs ($5.79) per hectoliter, which goes to the municipality, making a tax of 280 francs ($54) on every hectoliter of alcohol.

It is declared that this new tax on alcohol has caused a diminution of 50 per cent in the consumption of rum, and a smaller falling off in the consumption of other alcoholic liquors. But the output of alcohol augments, and it is contended that the increased volume is the work of fraudulent producers—what we would call "moonshiners"—who declare but a small part of what they produce. They are here called "boilers of growths." They have a license from the Government to produce alcohol, but their production invariably exceeds the quantity reported and upon which they pay the tax. The market is in some way or other flooded with medicated and other alcohol, for all of which it is desired to find a means of consumption.

A report on this subject, presented to the French Parliament and published in the Journal Officiel two years ago, gave a tabulated statement of the quantity of alcohol produced in France and Germany in 1897. The production in France was reported to be 2,022,000 hectoliters (53,415,174 gallons) of legal alcohol. It stated that the illegal product of the boilers of growths could not even be approximated. For the year 1899, the production for all of France was 2,241,382 hectoliters (59,210,580 gallons). When I applied to the office of the internal-revenue collector, he could only give me data for the two years here mentioned. He assured me that the excess of stock consisted largely of the unreported production of the boilers of growths. Of 250 distilleries, 50 produced nearly the entire quantity reported as given above. The material from which this alcohol was produced is set forth thus:

Material from which produced.	Quantity.	
	Hectoliters.	*Gallons.*
Farinaceous substances	416,530	11,003,473
Molasses:		
Domestic	699,000	18,507,584
Imported	164,000	4,332,388
Beets	544,087	14,373,146
Marc (the residue or dregs of the grapes after the wine is made)	78,429	2,050,683
Wine	17,484	457,154
Cider	22,905	598,897
Total	1,942,435	51,313,325

"The striking feature in these figures," says the report, "is that alcohol is an industrial product furnished by our agriculture and by importation."

The production of alcohol in Germany in the year 1897 was 3,616,319 hectoliters (95,532,300 gallons), two-thirds of which was derived from potatoes of domestic origin. It was produced in country distilleries, which number about 12,500, of which 5,226 produce only from 10 to 100 hectoliters (264 to 2,642 gallons).

The report submitted to the French Parliament says that France's best customer for sugar, the United States, will soon become an exporter on account of its relation to Cuba, and it therefore urges the enactment of a law that will encourage the manufacture of alcohol as a consumer of the supposed future surplus in the beet crop. The present annual sugar product of France is 850,000 tons, of which the United States buys more than any other country. Should American purchases fall off, the beets now worked up into sugar would go to increase the output of alcohol, for which there is now no means of consumption in sight. In connection with the projected exhibition, it is observed that alcohol enters but very little into use for lighting, while in Germany it is the great illuminant for parks and public places.

I would suggest to Americans who may attend the coming exhibition that lighting, heating, and cooking apparatus will be likely to receive favorable attention here, where coal is dear and oil pays a high customs duty, as well as freight over 3,000 or 4,000 miles of land and sea. It is possible that a small, handy cooking apparatus, heated by alcohol, would fill a want. All over France there are thousands of people who lead an isolated existence in one room, up four or six flights of stairs, who would prepare their first meal of coffee or chocolate and their evening soup on such a contrivance. The national custom, especially among the poor and middle class, is to take these two meals in a cheap restaurant; but customs change, and the effort to introduce new uses for alcohol may be a means of breaking up this habit—above all, if it is in harmony with ideas of strict economy.

JOHN C. COVERT,
Consul.

LYONS, *September 12, 1901.*

TOBACCO BUSINESS IN FRANCE.

The tobacco business in France is a monopoly of the Government, no individual having the right to make or sell a cigar or to sell tobacco in any form without a permit.

THE RETAIL BUSINESS.

The retail shops are generally kept by women, the widows of soldiers or officers, often by old soldiers themselves. I am told that the widow of an officer of high rank sometimes finds it necessary to petition for permission to keep a retail tobacco and cigar store, which she places in the care of an agent, and her connection with it remains entirely unknown. In all the large cities of France, there are also establishments called tabacs de luxe, where the finer kind of cigars and tobacco are sold and imported. They are owned by the Government, are in charge of men appointed by the same, and are not permitted to retail, as the State is not disposed to compete with the individuals whom it has authorized to open cigar stores.

To have the right to keep a retail tobacco and cigar store is considered a privilege worth working for, and it is said that every change of ministry is sure to give an opportunity to the exercise of the appointive power of the Government, which augments the number of retail tobacco dealers.

The tobacco sold in France annually aggregates to the State about $79,137,137. The expense to the State in buying raw material, labor, freight, etc., is $14,535,324, leaving the very handsome profit of $64,601,813. The State factories use 26,769,310 kilograms (59,026,325 pounds) of domestic tobacco and 15,000,000 kilograms (33,075,000 pounds) of imported leaf. The domestic costs $17.27 per 220 pounds, and the imported $27.88 per 220 pounds. Thirteen million kilograms (28,665,000 pounds) of the imported tobacco comes from the New World, mostly from the United States, and the largest quantity of this (called "Burley") is from Kentucky.

THE FACTORY AT LYONS.

The director of the works in Lyons gave me particulars about the business here and in other parts of France. There are 20 factories in France—3 in Paris, and the others in the large cities. In 1899, they employed 17,184 hands, 15,732 of whom were women and girls. Besides these, there are 714 persons employed as directors, overseers, foremen, etc. Next year, the factory in Lyons will make 22,000 kilograms (48,501 pounds) of fine-cut chewing tobacco, 176,000 pounds of common smoking tobacco, 176,000 pounds of pure Maryland, 88,000 pounds superior (composed of a combination of Kentucky, Maryland, and the best domestic), and 2,530,000 pounds of common, called "Scafferlati," a cheap smoking tobacco. This very cheap tobacco is used on the frontiers, where smuggling is prevalent, to meet the competition of the contraband article. Large quantities are also sold to the inmates of infirmaries and poorhouses.

The State tobacco factory at Lyons will next year manufacture 5,500,000 cigars that sell for 2 cents and 1,250,000 1-cent cigars, 20,000,000 cigars to sell at 1½ cents, and many millions of cigarettes.

Tobacco is grown in France, but large quantities are imported from the United States, Brazil, Cuba, and Java. Of the imports from the United States, that from Ohio is the favorite as regards packing and general preparation. Maryland stands highest for cigarettes and Kentucky is pronounced good for strong smoking tobacco, this being imported in larger quantities than any other American tobacco. As far as I have been able to learn, no one here knows anything about the fine Connecticut tobacco, so popular in America with all genuine lovers of good cigars. I feel confident that if an effort were made a good market for it would be found in France. The

Connecticut wrapper and seed filler ought also to be popular among the cigars de luxe in France.

THE PREPARATION OF THE TOBACCO.

As the cigar business in the United States, especially outside the large cities, is carried on largely in small shops and in families, a description of the workings of the factory in Lyons may prove interesting and perhaps useful. The factory is a four-story building covering 3 acres of ground. The first thing done to the tobacco, preparatory to its transformation into cigars, is to soak it in salted water. Then, instead of pressing the weed to free it from its strong, rank odor—contracted largely while being packed during shipment—it is dried in a hollow iron wheel that revolves 100 times per minute. After the tobacco is stripped, the stems are placed into large vats, under pressure, a stream of water percolating slowly through them, and the juice thus expressed is sold for 16 cents per quart. Last year, the Lyons factory realized nearly 2,000 francs ($386) from this source. One quart of this juice contains 40 grams of nicotine—sometimes as high as 60 grams. It is sold to veterinary surgeons, who use it upon animals afflicted with the itch or other skin diseases. Large quantities of it are exported to Buenos Ayres, where, I am told, it is regarded as a cure for sheep's itch.

When cut and ready for market, the tobacco is packed by machinery, the labor of three girls contributing to make each package. One places the wrapper around the tin frame, another places this in a wooden orifice and fills it with the tobacco, which has been weighed by a third person. A slow hydraulic pressure is then brought down upon the tobacco, slightly reducing it, when the tin forms are handed back to the first person, who finishes the packing and prepares another form. The girls work very actively; three of them pack 12,500 packages a day, their wages being respectively 60, 70, and 75 cents per day. Thus 12,500 packs of tobacco are done up for about $2.05, not counting the use of the machinery.

THE CIGAR DEPARTMENT.

No one but women and young girls are engaged in making cigars, cigarettes, and fillers, and in cutting wrappers. The work is all done on the principle of a division of labor; the cutting of the wrappers, the breaking of the fillers, the rolling of the latter up in the wrapper, and the putting of the little kinky head on the cigar, all of which is done by one person in the small shops in the United States, is done by five different individuals in the State tobacco factory in this city. The woman who cuts the wrapper does it with a little revolving wheel blade on the end of a handle instead of with the usual cigar maker's knife. She cuts many thousands of wrappers a day, the work all being measured by weight, and the girls or women to whom the wrappers and fillers are brought ready for use make from 500 to 800 cigars a day, for which they receive 45, 50, and 60 cents. One hundred and eighty-eight women and girls, from 16 to 28 years of age, work ten hours a day in the cigar department, and only one of them earns as high as $1 per day. Their situations are very desirable, and there is now a list of applications for places containing over 500 names. There is one filler machine on which two women break 1,500 fillers per day. A cunning machine in use here, invented by an employee, makes the head on cigars after they are rolled, and does the work of about a dozen hands. Another machine, which, I think, is an American invention, makes 140,000 cigarettes per day. Most of the boxes in which the cheap cigars are packed are made of cardboard. The wooden boxes are manufactured from the heads of hogsheads in which tobacco comes here from the United States. The price is marked by the Government on every box of cigars and on every package of cigarettes or paper of tobacco.

I was surprised to learn that a great deal of chewing tobacco is manufactured here and consumed in France. Generally speaking, Frenchmen are not chewers of the Indian weed; but in the manufacturing districts, where men work twelve hours a day and can not smoke during that time, they chew. In seaport towns, the habit of chewing is due to the presence of the American sailor.

NOTES.

The tobacco business in France is a very important source of revenue to the Government. The capital invested in the buildings, machinery, etc., is $10,385,216, and the Government generally realizes a profit of between $60,000,000 and $80,000,000. The State usually carries from $15,000 to $20,000 in stock, consisting of raw material and cigars. In 1899, the net profits were $67,276,243.52.

JOHN C. COVERT,
Consul.

LYONS, *September 6, 1901.*

PLUMBING AND SANITARY APPLIANCES AT NICE.

Modern improvements are being introduced into buildings in this consular district, and I am of the opinion that the use of sanitary appliances will assume large proportions in the next few years, and that our manufacturers should seek to enter this field.

The system of supplying hot water throughout houses has not yet been adopted here, but detached water heaters are largely used. A gentleman, to whom I described our kitchen ranges supplying hot water, would have placed them in all the apartments of a large, new building, had he been able to find them on the spot.

Considerable quantities of these goods have been imported from England; up to the present, the sales of German firms have consisted principally of brass cocks and faucets and of plain zinc baths. I am informed that the latter may be had here at about 20 francs ($3.86) less than the French article, and of better workmanship.

The following prices are paid by plumbers for the articles mentioned:

Article.	Prices paid by plumbers.	Custom-house duties per 220.46 pounds.	Municipal tax per 220.46 pounds.
Water heaters, gas (of copper)..............each...	$36.67	$9.60 net weight......	Free.
Baths, cast-iron (interior enamel)..........do......	$30.40 to 49.90	$2.90 net weight *.....	Free.
Cabinet bowls:			
Half porcelain, colored....................do......	4.25 to 8.50	$2.40 to $5.80, ranging from plain white to colored or decorated, gross weight.	$0.60
All porcelain (one piece)—			
White..do......	6.20 to 11.60		.60
Colored......................................do......	14.50		.60
Sitz baths, all porcelain, colored............do......	44.50		Free.
Lavatories..do......	34.75 to 115.80		Free.
Cast-iron water tanks..........................do......	3.50 to 7.75	$0.60 gross weight...	....
Copper tubes, plain (diameter, 1.57 to 1.73 inches), per 39.37 inches.	1.35	$5.79 net weight........	.60
Lead pipe:			
Diameter, 0.78 inch upward, per 220.46 pounds.	10.25	$1.54 gross weight...	.60
Diameter, up to 0.78 inch, per 220.46 pounds.	11.60	........do	.60
Brass water cocks..................................each...	.75 .85 1.10	Weighing over 22 pounds, rough, $4.82 net; finished, $5.80 net. Weighing under 22 pounds, rough, $3.86 net; finished, $9.65 net.	.60 .60 .60
Toilet water cocks:			
Nickeled...do......	1.60 to 3.00	$28.95 †....................	.60
Nickeled, double movement.............do......	2.35 to 4.85	$28.95......................	.60

NOTE.—Goods not coming direct from the United States pay an additional duty of 70 cents per 220.46 pounds.

* Same duty if enameled inside and outside.

† All nickeled work pays this duty. If parts are not detachable, whole weight pays this duty.

It will be seen that nickeled goods pay a very high duty, and that nondetachable parts subject the entire article to the same duty. Our manufacturers should therefore nickel only such parts as may be detached and weighed separately. It costs about 25 cents here per running foot to nickel copper tubing, such as is mentioned in the table. I have seen but one nickeled copper bath here, and the price to a plumber was $130.

I have not been able to ascertain the German price for ordinary zinc baths, the few plumbers buying them apparently desiring to keep it secret. But an ordinary zinc bath, uncouth in appearance, made on the spot, will cost not less than $20.

The high prices charged up to the present for the most elementary sanitary appliances have been the cause of the limited consumption. The general public has no conception of the beauty, lightness, and durability of our manufactures in this line, and, once known, our goods should compete most successfully with all others. Manufacturers of standard lines or of specialties should find a reliable agent to handle their goods and ship them direct, thus avoiding freight charges, middlemen's profit, and commissions. Where possible, a certain credit should be given. In one case, a German firm gave a plumber one year's credit on a bill of brass cocks and toilet faucets. He now purchases all this line of goods in Germany.

I have endeavored in this report to indicate on large lines the state of this trade. Should any firm require more detailed or more technical information, I shall be glad to furnish it.

ATTILIO PIATTI,
Vice and Acting Consul.

NICE, *September 3, 1901.*

NEW STEAM GENERATOR IN FRANCE.

There is a tendency among constructers to increase steam-boiler pressure, in order to allow the use of smaller cylinders. French locomotive boilers already carry from 16 to 18 kilograms (35 to 39 pounds) ordinarily.

My attention has been attracted to a company that is being formed with the object of manufacturing and introducing a new steam generator, which will insure a pressure variable from 20 to 80 kilograms (44 to 176 pounds).

This powerful generator, constructed by M. Serpollet, is made of cast steel, fused at 1,800° C. Within, it is an arrangement of noncapillary tubes, and it is in these that the instantaneous vaporization is effected without danger of escape, up to a pressure of 80 kilograms (176 pounds). The apparatus placed in the fire box constitutes a sort of blower, allowing great facility to the fire draft. On account of its heavy construction, it offers ample resistance to the pressure.

It is claimed that it is not affected by immediate contact with the fire, and that capillary action is completely suppressed.

By this apparatus, an absolutely new departure is brought about in the generating of steam, and it is contended that its application will be of incalculable value, either as a motor agent or in the employment of steam dried at hitherto unknown temperatures.

Either coal, coke, or petroleum may be used for fuel.

HILARY S. BRUNOT,
Consul.

ST. ETIENNE, *September 25, 1901.*

DETONATING DEVICE IN FRANCE.

M. Aubert, a local inventor, has produced a successful apparatus for exploding dynamite with safety in coal mines where gas is present in dangerous volume, without the use of electricity, the installation of which is always costly and subject to disarrangement.

The instrument seems to cover the exposed end of the safety fuse, to fire it, and to receive all flame and sparks thrown off without allowing any communication with the atmosphere.

A copper tube receives the end of the fuse to a depth of several inches. At the other end of the tube is fixed a percussion cap, similar to those used in toy pistols and lying against the side of the tube, which is pierced in its turn by a small hole. The distance between the extending end of the fuse and the percussion cap is only 2 millimeters (0.07 inch). The end of the tube with the percussion cap is introduced into another cylinder, also of copper, which contains the firing mechanism. To operate the apparatus, the tube containing the fuse is held in the left hand, while with the palm of the right a smart blow is struck on the button of the percutient, when the cap explodes.

The gas produced by the fuse fills the cylinder, but can not escape outside, unless extinguished, as the holes in the cylinder are covered with metallic gauze. In practice, the tubes are prepared outside, in the daytime, by the lamp cleaner, so that no stray percussion caps may be brought into the mine.

Each foreman whose business it is to surpervise the blasting takes into the mine a case containing the number of tubes required for the day, and brings them back at night to be recharged.

This simple apparatus has been in use for the last few months in one ot the St. Etienne mines, as well as in the north of France. It is reported to be giving much satisfaction, being both economical and sure in its working.

HILARY S. BRUNOT,
Consul.

ST. ETIENNE, *September 25, 1901.*

SHOOTING CANNON AT CLOUDS IN FRANCE AND ITALY.

FRANCE.

Consul Covert writes from Lyons, August 28, 1901, that a congress will be held in that city on November 15, 16, and 17, to consider the subject of shooting at clouds to prevent hailstorms. Half-fare tickets to and from Lyons will be sold by all the railroads in France, good from the 10th to the 20th of November.

Everything pertaining to protection against hail and frost will be considered at this congress. Representatives will be present from all parts of Europe, and an earnest invitation is extended to Americans.

In a previous report, Consul Covert refers to criticisms in the United States of his reports on this subject.* He calls attention to the fact that he has never expressed an opinion of his own. The individual opinion of anyone, he says, is worth little or nothing upon a question that is being tested by experiments conducted on a large scale by several thousand people in two great nations. It may prejudice the mind so as to prevent an unbiased judgment.

In regard to this being called "a popular delusion of the uneducated peasantry," Consul Covert says:

It is not the peasantry, but the wealthy, well-educated proprietors who have directed these experiments, and who are most emphatic in indorsing them. I have interviewed all classes of people—scientists and laymen—and find only one, Dr. Paul Cazeneuve, who does not accept the cannonading theory. He insists that the experiments have not yet been conducted under sufficiently diverse circumstances to clearly prove the cannon theory. In answer to this, the large proprietors and the peasants and their wives repose the most implicit faith in cannon, and laugh at the learned doubter. It is well to bear in mind that the French peasantry are noted for their conservatism and good common sense. Their economic habits render them thoughtful. The care of a little property goes farther to develop habits of thought and judgment than a little learning.

The third cannon-firing congress to consider this question and the subject of grape growing and wine making generally will be held in this city in November, 1901. There will be sufficient data by that time to judge of the efficacy of the cannon against hail. I should be glad if the grape growers of the United States could be represented here on that occasion by a committee of practical men.

---

*See ADVANCE SHEETS Nos. 807, 916, 946, and 1047 (CONSULAR REPORTS Nos. 241, 246, 247, and 250).

ITALY.

Consul Johnson, of Venice, in answer to inquiries by a resident of Baltimore (to whom advance copy of this report has been sent), discusses the use of cannon against hail in northern Italy. Cultivators, he says, have tried various practical expedients for the protection of their vines, but all means proved inadequate until, the subject having been approached from the theoretic side, a preventative was found which, if not yet practically perfected, still gives such excellent results as to point the way to future security. This was what is known in Germany as "wetterschiessen" (weather shooting). At a congress held in Padua, the delegates from all parts of Italy and from Spain, France, and Austria-Hungary reported on the success of experiments in their home regions, considered the scientific results obtained, discussed the relation of government to a matter so closely concerning the welfare of citizens, and examined instruments competing for diplomas of efficiency. The reports prove that "wetterschiessen" has had remarkable results wherever tried. The consul continues:

The experiment in northern Italy has now been in operation some two years. In that time, it has been found that not only has the proportion of hailstorms successfully combated been large, but that certain estates well provided with cannon systematically operated by competent men have been completely free from the once-dreaded scourge. In these last cases, the effect of the cannon has been the more marked as in immediately adjoining territory entire crops have been destroyed. The efficiency of the new system has so impressed the public that the Government now sells powder at half price to agriculturalists for hail cannon, while a network of stations has been established all over northern Italy, where farmers may obtain cannon for temporary use at a nominal price.

It seems to be now generally conceded that local storms can always be successfully combated, while high storms traveling with great rapidity over wide areas are much more difficult to cope with. The limits within which the cannon will be efficient have as yet to be determined. Some argue that the shots are effective only to an altitude of 300 meters (984 feet), while others claim that their range is much higher. It will require long experiment to settle many points, and to teach the cultivator how far he can depend upon his weather artillery. But even the partial results obtained up to the present have fully vindicated the not insignificant expenditure of time and money.

PATENT MEDICINES IN SWITZERLAND.

I have been asked recently by interested parties for Government regulations on the sale of patented medicinal and chemical preparations here. In foreign countries, it is said, American manufacturers are forced to submit their preparations to the local authorities for analyses without protection, the analyses being subsequently published and the business ruined for that country. Is there any way, I am asked, in which an American manufacturer of a specialty of this kind could have his preparation analyzed for sale in Switzerland, the report being kept secret and returned to the manufacturer?

In reply to this, I would submit my report.

An agreement has been entered into among the governments of the Cantons of Zurich, Aargau, St. Gall, Graubunden, Schaffhausen, Thurgau, and Zug, regarding the advertising and sale of patent medicines. A control office has been established at Zurich, whose duty it is to examine and give an opinion on the value of such articles. The utilization of this opinion is left to the discretion of the cantonal governments. Zurich does not publish the analyses.

Canton Berne.—Berne demands communication of the composition of specialties offered; this will be known only to the members of the sanitary college.

Canton Lucerne.—Absolute secrecy is guaranteed the petitioner as to the composition of his specialty.

Cantons of Uri, Schwyz, Obwalden, Nidwalden, Glarus, Solothurn, Basel country, Appenzell (Inner Rhodes), and Wallis give no directions in these matters.

Canton Zug.—See Zurich. The results of the examination of the control office are published in the official organ of that Canton, but the composition is not given in detail.

Canton Freiburg.—The analytical results are not published.

Canton Basel (country).—The sanitary department can give enlightenment through the press as to the value of nostrums advertised in the papers.

Canton Schaffhausen.—See Zurich. The question of publishing the results of the examination is undecided.

Canton Appenzell.—Has never had occasion to order an examination. The sanitary college oversees the traffic in medicaments and nostrums.

Canton St. Gall.—See Zurich. The results of examinations have so far never been published.

Canton Graubunden.—Publishes the results of analyses. (See next page.)

Canton Aargau.—See Zurich. If the article should be prohibited, this will be done by public promulgation.

Canton Thurgau.—See Zurich. The opinion of the control office will not be kept a secret, but will be communicated to all apothecaries.

Canton Tessin.—The composition of the article can not be kept secret, but the method of compounding can.

Canton Waadt.—The composition of the article must not be published, nor can it be used as advertisement.

Canton Neuchatel.—The result of the analysis is kept a secret, if it pertains to a medical specialty which is sold exclusively by apothecaries; but in case of a nostrum which may be sold anywhere and by anybody, the composition is published in the public papers.

Canton Geneva.—The result of the analysis is not published.

The Canton of St. Gall promulgated the following regulations, under date of March 15, 1901

SECTION 1. Advertising and sale of nostrums and medical specialties are limited to apothecaries. The sanitary college is authorized to keep a register of these articles.

SEC. 2. Only such nostrums and medical specialties may be advertised and sold as have received permission from the sanitary college. This permission will be refused when—

(*a*) The article is dangerous to health or the composition of same is nonsensical.

(*b*) Advertisements, printed matter, etc., are considered to be humbug.

(*c*) The selling price is in excess of the value.

SEC. 3. The sanitary college has the right to demand samples of the articles, in the original packing, sufficient for examination purposes, together with a memorandum as to the manner of compounding, the selling price, and the deposit of the cost of the examination. When these conditions are not complied with, the advertising and sale of such articles are prohibited.

SEC. 4. The sanitary college shall keep a record of such prohibited articles and advertise the same.

SEC. 5. The permission to advertise and sell must not be used in advertisements.

SEC. 6. The sanitary college is authorized to make special prohibitive laws against humbug recommendations of medical apparatus, insincere offers of curing through the mails, publication of testimonials of pretended cures, and means for preventing conception.

SEC. 7. Violation of the above and of the prohibitive laws promulgated will be punished under articles 144 and 145 of the code. The printers and publishers of newspapers and magazines are punishable for the advertisements appearing in their publications.

SEC. 8. These regulations become law on June 1, 1901.

The Canton of Graubunden promulgated the following, under date of May 3, 1901:

SECTION 1. Advertising and sale of nostrums and medical specialties without the special permission of the sanitary department are prohibited.

SEC. 2. The sanitary department decides what articles are considered as nostrums and medical specialties.

SEC. 3. The sanitary department will not permit the advertising and sale of nostrums and medical specialties when—

(*a*) The article is dangerous to health, or the composition of same is nonsensical.

(*b*) Advertisements, labels, prospectus, etc., are calculated to deceive the public.

(*c*) The selling price is in excess of value.

SEC. 4. The sanitary department has the right to demand sufficient samples in original packing for examination, together with a memorandum of compounding, selling price, and a deposit for the cost of examination. As long as these conditions are not complied with, advertising and sale are prohibited.

SEC. 5. The sanitary department will keep a register of such prohibited articles and shall advertise the same.

SEC. 6. The permission to advertise and sell must not be used in advertisements.

SEC. 7. Violation of the above and of the prohibitive laws of the cantonal sanitary department are punishable by a fine of from 5 to 500 francs (96 cents to $96), according to section 66 of the sanitary laws. Printers and publishers of newspapers, magazines, prospectus, etc., are punished in the same manner for printing prohibited advertisements.

These regulations become law June 1, 1901.

Zurich.—I give a few extracts from the weekly official publication at Berne, the Bulletin Démographique et Sanitaire Suisse, containing opinions of the intercantonal control office in Zurich, prohibiting the sale and giving information regarding the value of nostrums and patent medicines:

The ——— Drug Manufacturing Company offers a remedy against stomach trouble, consumption, etc.; an American nostrum; humbug advertisements, recommended for ills the treatment of which ought to be undertaken only by a proper physician.

H. Warner & Co., Frankfort; Safe Cure and Safe Pills.—To these remedies are ascribed healing powers against all manner of sickness which they do not possess, and through the advertisements the public is deceived. The price is far in excess of the real value. It is an unlawful method of making money out of the public.

Blank's Hair Restorer.—One of the many hair dyes; pretends to contain only vegetable ingredients; contains considerable quantities of lead.

I. Aurays, apothecary, Paris; Dragées, Mirtille Laxatives.—Contains strong drugs, such as podophyllin and hyoscyamus, but not a trace of mirtille (bilberry); therefore is a swindle.

H. J. Biermann's electrical belts, Frankfort.—For cramps, backache, nervous dyspepsia, neuralgia, rheumatism, and gout; has no healing powers. The price is made with a view to cheat the public.

Dequéant's Lotion; apothecary, Paris.—Remedy to make hair grow and for bad cases of eczema; declared to consist of ether, methylchlorhydroformique, a substance that does not exist. The accompanying pamphlet is in every respect a swindle.

H. Geering's (Berne, Switzerland) Swiss Home Remedy, Olivea.—Remedy against burns and open wounds; composition, butter, lard, oil of olive and juniper, albumen. Worthless preparation, which would be dangerous to use in mentioned cases.

J. J. Hohl's Pektorinen.—The sale of this cure, praised for coughs and chest ailments, is prohibited on account of the morphia it contains.

I have shown by these extracts the impartiality of the intercantonal control office in Zurich, which judges the products of natives and aliens alike.

ADOLPH L. FRANKENTHAL,
Consul.

BERNE, *August 28, 1901.*

WOOL PRODUCTION AND MANUFACTURE.

Mr. Henry Pupin has recently published an article in the Débats under the above title, which contains matter of interest to the wool trade.

After deducing from statistics of late years that the production in wool-raising countries such as La Plata and Australia is sensibly declining, Mr. Pupin states that the price of wool is less influenced by this decrease than by the respective rank of fine qualities and crossbred varieties. He says:

> Now, more than ever, the line is drawn between the two kinds, so different in their origin, in mode of manufacture, and final use.
>
> The dominant note in the history of wool has been the rising demand, during a period of three consecutive years, for fine grades, in face of steadily decreasing production.
>
> The reasons for this decrease have long been known. After the low prices paid in 1894 and 1895, stock growers limited their production of fine grades and gave attention to common breeds, which were more remunerative. Cheviots at that date being in as great demand as merinos, they found greater advantage in raising breeds that served as food, were more hardy and more prolific.
>
> Since then, if the flocks did not increase in numbers, the yield in fine wool necessarily became less, as the Merino sheep gives birth to but one lamb yearly, while the crossbreeds produce two during the same period. This explains the dearth of fine wools to-day; the taste for fine grades seems so firmly established that only the best crossbred wools find a market.
>
> It is not likely that there will be a great increase in Merino sheep in the near future, as at least eight years of crossing the breed are necessary to reestablish the Merino type.

After alluding to the wool crisis of last year, Mr. Pupin continues as follows:

> The manufacturing outlook is favorable; figures of the amount of goods manufactured since the beginning of the year testify to activity, and without doubt the low price of raw materials and the needs of consumers will bring about a prosperous season, if narrow methods be abandoned.
>
> From this time on the scarcity in fine wools will be felt, as it is undeniable that the situation in fine wool is more strained than in 1898, when the relative scarcity brought about the alarmingly high prices of 1899.

He concludes:

> Under existing conditions and with present prospects, there are not many ways out of the difficulty. The dying out of Merino sheep without attempt to replace them and the consequent decrease in fine wools will necessarily increase the demands for high grades until impossible prices will turn popular attention to common grades, for which there is no call at present.

W. P. ATWELL,

ROUBAIX, *September 17, 1901.* *Consul.*

PROPOSED PROTECTIVE TARIFF IN GREAT BRITAIN.

Consul McFarland writes from Nottingham, September 11, 1901, in regard to the meeting of the Associated Chambers of Commerce of Great Britain in that city. A resolution advocating the institution of a protective policy by the country was introduced by a Nottingham member, following its adoption by the local association. Earnest attention, says the consul, is being given this subject in trade circles, and there is a desire on the part of British manufacturers to protect themselves against the influx especially of American and German goods. He incloses an extract from a Nottingham paper commenting on the resolution, as follows:

> The British people have lost much of their old admiration for free trade. They see that it works out advantageously for foreign rivals, and as the other nations of the world steadily increase their protective duties, so that there is now not a single foreign market into which British goods can enter freely, a feeling of irritation and annoyance is almost inevitable. * * * We question whether, if it were possible to start afresh, with our present experience as a guide, it would be possible to induce the people of this country to adopt free trade in any form. But no one can ever make quite a fresh start. Every person has to bear the consequences of his past actions, and nations in this respect are in the same position as individuals. Since the principle of free trade was deliberately adopted after many years of anxious discussion, a condition of things has grown up which would make it almost impossible to return to protection even if the nation desired it, which at present it does not. Every person who advocates a departure from the principle of free trade is met at the very threshold of his argument by the fact that it is impossible to tax manufactured articles without at the same time taxing food, and we do not think that any person now living is likely to see a time when this will be possible. * * * Whether we like it or not, we shall have to go on fighting hostile tariffs with free imports. The struggle is not quite an equal one, and if the British people are to be successful in it, they will have to display a very high degree of intelligence, enterprise, and industry. But the past history of the country shows plainly that hostile tariffs can be fought successfully, and, so far as we can see, there is no reason why this should not continue to be the case.

ELECTRIC TRACTION IN NOTTINGHAM.

Under date of March 18, 1901,* I reported the construction of one branch of a contemplated system of electric street railways to supersede the old horse-car lines previously in existence. At that time, about 2 miles of double track were in operation; since then, some 4½ miles have been added and put in operation, and track has been laid for several additional miles. The institution of this modern system, which has been established without regard to expense and is strictly first class in all of its appointments, gave a shock to the conservative element of the population, and prophecies were freely made that the scheme would prove a financial failure. That these prophecies were false is clearly shown by the first report of the tramways committee, which I summarize below, and it must follow that the system will be extended to take in several populous suburbs already clamoring for the improvement. In fact, parliamentary powers have already been applied for to widen the system beyond its original scope, and it will surely be extended later on. In moving the adoption of the tramways committee's report, the chairman compared the receipts of the electric system, so far as completed, with the revenues obtained from the old horse-car lines, and his figures are instructive. The Sherwood line, he said, from the opening of the system on January 1, had brought £15,396 ($74,924.62), against the horse cars for the past year of £4,258 ($20,721.55), a difference of £11,138 ($54,203.07). They carried last year 616,000 passengers, and this year 3,063,000, an increase of 2,500,000. The Sherwood line was carrying an average of about half as many as the whole of the horse trams last year. The Bulwell electric cars were even more striking. In the five weeks the cars had been running £4,554 ($22,162.04) had been earned, as against £1,556 ($7,572.27) from the horse cars, an increase of £2,998 ($14,589.76). The passengers had increased from 247,000 to 815,000, in round figures. The line was carrying an average of 8,000,000 passengers per year; that alone was equal to the whole of the horse cars last year, while the cost per mile was not more.

---

*Advance Sheets No. 1012 (April 16, 1901); Consular Reports No. 249 (June, 1901).

S. C. McFarland,
Nottingham, *September 20, 1901.* *Consul.*

LIVERPOOL'S THREATENED RIVAL.

What is known as the Berehaven Harbor scheme was for a week or so a subject of unusual interest in Liverpool. When Parliament at the close of the recent session, without any preliminary notice, passed a bill giving authority for the construction of a pier and other shipping facilities at Berehaven, there was great consternation in Liverpool, particularly in view of the statement of the promoter of the bill that it was intended to establish a line of steamships which would make the journey from America to Berehaven in four and one-half days. Since the passing of the bill authorizing the harbor facilities referred to, there has been an exhaustive discussion in the press and privately among those interested in Liverpool shipping and commerce, and the general conclusion arrived at is that Liverpool has nothing to fear from the Berehaven scheme.

A reference to the map will readily show that Berehaven is admirably situated in a geographical sense as the eastern terminus of a trans-Atlantic line, but, in truth, the southwestern and western coasts of Ireland have a number of harbors much nearer America than Liverpool capable of accommodating the largest ships afloat. For many years Bantry Bay, in which is Berehaven Harbor, has been a rendezvous for the British fleet, and it is admitted to be one of the safest and most commodious harbors in the world. The passage of the Berehaven Harbor scheme bill in Parliament has revived reminiscences of other schemes having for their object the shortening of the sea passage between Europe and America. Most of these plans had in view the utilization of one of the numerous natural harbors of the west or southwestern coast of Ireland as the eastern terminus. None of these projects, however, has ever passed beyond the experimental stage, and, so far as I can learn, the prospect is very remote that the Berehaven scheme will, at least for many years to come, become an actuality, and the probability is that it will meet the fate of its predecessors. After having had time to duly consider the possibilities of the new project, the shipping and commercial interests of Liverpool have come to the conclusion that even though Berehaven Harbor be completed as projected in the Parliamentary bill and the most up-to-date railroad connections be made, and even though the proposed rapid 25-knot fleet be established, yet after all Berehaven can be nothing more than a port of call, and at the most would take the place of Queenstown, en route to Liverpool. The reasons back of this conclusion seem to be sound, and may be stated briefly as follows:

(1) The terminus of a steamship line should be within easy reach of the objective point of passengers. Berehaven does not meet this condition precedent. The objective point of most trans-Atlantic passengers is London or the Continent. In order to reach either point, passengers who disembarked at Berehaven would have to. make an additional change to cross the Irish Sea.

(2) It is necessary for a terminus of a trans-Atlantic line, both on the European and American side, to be convenient for the rapid and cheap distribution of cargo. The population of Ireland, as compared with the rest of the British Isles, is small, and indeed decreasing, and very little of American cargoes have Irish points as their ultimate destinations, and Ireland's exports to America are but small. The transshipment of cargo which would be necessary with Berehaven as the eastern steamship terminus seems to put that place out of the question.

(3) As a trans-Atlantic shipping terminus, Berehaven would be under the great disadvantage of having to bring coal from a considerable distance (Wales being the nearest point); there would be lacking an ample supply of seamen from whom to select crews; and the commissariat would be much more costly than from, say, Southampton or Liverpool.

Possibly Berehaven might become a rival of Queenstown as a port of call, but even that is doubtful. Not only would several million dollars be required to construct the necessary piers and wharves at Berehaven, but the place at present is entirely lacking in railroad connection. The promoters of the Berehaven scheme bring forward, as against Queenstown as a port of call, the conceded objection that passengers have to reach shore from the ship by tender. It is true also that sometimes communication can not be had at Queenstown when the weather is very rough, and accounts agree that Berehaven Harbor would be available at all times; but the Liverpool steamship people say that it is very doubtful whether it would pay in a commercial sense to adopt the Berehaven scheme, as against the present facilities at Queenstown, for the reason that, comparatively, but few passengers embark or disembark at Queenstown, and they argue that not many more would utilize Berehaven.

THE FUTURE OF THE TRANS-ATLANTIC TRADE.

While Liverpool shipping and commercial interests do not fear that Berehaven, or any other port on the west or southwest coast of Ireland, can become a rival of Liverpool, there is much speculation and some uneasiness as to the future of the trans-Atlantic trade. In this connection, the press and the public seem to be more apprehensive than the managers of the steamship lines. There is undoubtedly in Liverpool a deep-seated popular fear that the British steamship lines—and reference is more particularly made to the Liverpool lines—may be outdone by American and German enterprise. A great deal of apprehension exists among the British public as to the possible competition through the inevitable development of the American mercantile marine; and there is keen disappointment at the failure so far of the Liverpool companies to wrest "the Atlantic blue ribbon" from Germany. Here, one meets a sharply defined difference of views. The popular demand is for the construction of vessels that will not only excel in size the *Deutchland* and *Kaiser Wilhelm der Grosse*, but also surpass them in speed. The Liverpool steamship managers profess to believe that under present conditions the limit of speed has been practically reached, from the standpoint of commercial success. The claim is made that it would not pay to build faster ships than those now running between New York and Liverpool. The position of the Liverpool shipowners seems to be that at present the best policy is to build ships of large capacity and of only fairly great speed, and to await developments. Intimations are made that future competition will be duly met, and a keen watch is being kept on rival enterprises. It is very difficult to obtain reliable information as to the intentions of the large British shipowners, the policy of each company evidently being not to "show its hand." There are rumors that the Liverpool lines are awaiting the results of the experiments that are being made with the "turbine" system, and that if these prove successful vessels will be built for the Atlantic service of greater size and speed than any now sailing.

JAMES BOYLE,
Consul.

LIVERPOOL, *September 12, 1901.*

AMERICAN FURNITURE IN ENGLAND.

I have recently talked with a number of firms handling American goods, and the views of Mr. S. C. Hardy, of G. Hardy & Co., wholesale manufacturers and importers of furniture—a firm which caters to the middle and lower classes—can, I am sure, be profitably studied by our exporters in that line. It should be borne in mind that this firm is typical of thousands of others in England, and that its scope of operations is not confined strictly to furniture as understood in the United States, but that it handles general household furnishings, including washing machines, wringers, office supplies, and appropriate hardware, such as casters, etc. Much of this stock is already of American manufacture; and in response to my suggestion that he give his experience with American goods and criticise the methods in vogue from the standpoint of a practical importer, Mr. Hardy dictated the following:

> The import of American furniture, we are pleased to say, is still on the increase here, although we have great difficulty in getting the manufacturers to conform to English styles. We think that if these people would pay a little more attention to English requirements, there would be very much more trade done in this country, and the demand would assume large proportions. The different requirements of the English trade are of a very trifling nature, but, if not carried out, seriously affect sales here. The English people are still prejudiced against American goods, because the fault had been made of shipping over a very common grade. What is wanted here is a good medium quality, finished in the best style, but sent over absolutely in the white—that is, unpolished. The American polish is far too thick and rough for the English requirements. It is liable to get chipped in transit, and, when here, it is impossible to make good without entirely repolishing. The English designs are very little different from the American, but we do not see so many appliqué carvings. The American exporters seem to be reserved, and will not

alter the smaller details. Of course, on account of freight charges, all goods must be built to enable them to be shipped knocked down, and it would be well to remember that the wood in most cases is seasoned far too dry for this climate, which is much more humid than that of the United States. A few months after the wood arrives here it begins to swell, and becomes badly distorted. What is wanted is a firm that is prepared to make up bedroom suites, dining tables, and all ordinary furniture to English designs, of properly seasoned wood, constructed knocked down, and shipped in the white. If such a firm will place its name before the English buyers, we feel convinced there is a large future for its goods.

We are also importers of brass cabinet handles, which trade is fast on the increase here. We find the goods compare very favorably with English manufactures, as regards prices; but here again the Americans have too fancy and floral a style. What is wanted in this class of goods is a very much plainer pattern and the ball or handle of all pulls to be made solid instead of hollowed out at the back. The finishes of these goods have lately varied in England, and a large number of coppered and oxidized brass handles are being used. This can be easily done in the States, and we feel sure that if the American manufacturers would only take the trouble to carry out some, if not all, of the alterations required by the English market, the trade would increase twofold in a short space of time. Although trade has not been so good in England during the past twelve months, we are looking for a revival next year, and we should be pleased to communicate with any American firm desiring to increase its foreign trade.

S. C. McFARLAND,
Consul.

NOTTINGHAM, *September 20, 1901.*

SPAIN'S MINERAL PRODUCTION IN 1900.

The Department of Agriculture, Industry, and Commerce has just published the mineral statistics for 1900, and from that report I have taken some of the more important details.

The value of the mineral production was $57,714,651.44, or an increase of $8,857,549 over 1899. The value of the mineral at the mines in 1899 was $23,786,076.39; in 1900, $26,914,274.65; increase, $3,128,198.26. The value of the products at the manufactories in 1899 was $25,071,031.94; in 1900, $30,800,376.79; increase, $5,729,362.86.

The following shows the increase in the number of concessions, plants, and the workmen employed:

Description.	1899.	Increase in 1900.
Mineral concessions at work	2,770	11
Plants	147	11
Workmen:		
In the mines	86,662	2,4
In the mills	20,736	1,8

The table below shows the producing and nonproducing mines, arranged according to provinces:

Province.	Producing mines.		Nonproducing mines.	
	Number.	*Acres.*	*Number.*	*Acres.*
Oviedo	427	48,439	1,293	157,005
Jaen	242	10,400	315	27,900
Huelva	221	17,091	747	25,872
Viscaya	176	8,205	1,057	41,082
Murcia	175	3,736	2,466	83,593
Almeria	172	4,071	1,839	64,868
Santander	85	3,556	1,187	49,476
Seville	79	6,565	459	35,669
Valencia	53	12,229	134	16,949

In all Spain, there are 2,046 producing mines, with an area of 1,140,980 acres, and 17,401 nonproducing mines, covering 1,034,471 acres.

The following table of minerals gives the distribution of the producing mines:

Description.	Producing mines.		Nonproducing mines.	
	Number.	*Acres.*	*Number.*	*Acres.*
Pit coal	499	75,426	1,606	234,706
Iron	453	23,121	9,005	497,110
Lead	397	16,894	1,985	99,928
Copper	218	17,201	828	37,355
Argentiferous lead	166	2,303	966	18,586
Zinc	68	1,637	594	19,161
Lignite	54	6,200	466	50,925
Common salt	45	1,741	171	5,642
Manganese	33	1,110	182	5,928
Quicksilver	21	491,296	92	3,696
Mineral waters	19	30,132	199	2,966

Mineral waters.—Barcelona figures in the first place with a production valued at $89,489.62. The provinces of Alicante and Tarragona follow.

Antimony, anthracite, arsenic, and jet.—Antimony is produced only in Lugo, with two mines, the value of the output being $640.35; anthracite, in Cordoba, $27,047.81; arsenic (pyrites), in Gerona, $224.12; and jet, in Teruel, $35.58.

Quicksilver is produced in three provinces, as follows: Ciudad Real, 17,392 tons; Oviedo, 11,000 tons; and Granada, 1,658 tons; total valuation, $785,664.63.

Sulphur is produced in three provinces, as follows: Murcia, 35,000 tons; Albacete, 23,579 tons; and Almeria, 5,785 tons; total valuation, $78,226.29.

Zinc.—The total production of zinc is 86,158 tons, valued at $426,901.17. The mineral comes from fourteen provinces. Among those figuring as the largest producers are: Santander, 38,050 tons; Murcia, 30,620 tons; and Cordoba, 6,808 tons.

Iron.—The iron-ore-producing provinces are shown in the following table:

Province.	Quantity.	Value.
	Tons.	
Viscaya	5,361,796	$3,594,479.
Santander	1,117,017	552,472.07
Murcia	980,533	837,179.3
Almeria	463,882	234,336.7
Seville	352,284	73,204.8
Granada	116,888	41,724.8

The total production of iron ore in Spain last year was 8,675,749 tons, having a value of $5,406,632.29.

Lead.—The production of lead is chiefly in two provinces, as follows: Jaen, 101,273 tons, valued at $3,576,603.49; Almeria, 22,624 tons, valued at $145,570.34. Ciudad Real produced 3,860 tons; Granada, 1,254 tons; and Tarragona, 1,148 tons.

Argentiferous lead.—The province of Murcia outranks all in the production of lead, with 121,435 tons, valued at $3,110,453.45.

Salt.—Common salt is produced in twenty provinces. The first in importance is Cadiz, with an annual production of 270,000 tons: Baleares second, with 72,875 tons; Alicante third, with 60,843 tons; and Almeria fourth, with 21,000 tons. The approximate value was $498,932.40.

A. E. CARLETON,
ALMERIA, *August 29, 1901.* *Consular Agent.*

UNITED STATES ENGINEERS IN RUSSIA.

The new German monthly periodical, Russia and Germany, contains a long article concerning the commercial relations between Russia and the United States. It notes that although the trade between the two countries is not yet large, American enterprise has gained triumphs in another field in Russia. The transportation problems in the Asiatic possessions resemble those solved in the United States. American engineers have rendered valuable services in the Manchurian Railroad and the East Siberian line. In European Russia, also, the Government is availing itself of their experience. The ice breaker *Jermak* was modeled on those employed on the Great Lakes in the United States. An American has shown Russia how to dredge her rivers at a great saving of expense.

The journal adds:

> These facts show that American competition, even if to-day it does not figure formidably in the trade of Russia, will surely be felt in this rich country in the future. The advantages of the Americans must be offset by a new German-Russian treaty. The German is much superior to the American in adapting his goods and his mode of conducting business to the requirements of the Russian market.

RICHARD GUENTHER,
Consul-General.

FRANKFORT, *August 28, 1901.*

FLOATING DRY DOCK FOR ODESSA.

I have been informed by the acting consular agent at Fiume, Hungary, that the Societa Fiumana di Costruzione Navale Howaldt has just finished one of the best and strongest floating dry docks ever built on the Continent. It is for the Russian Steam Navigation and Trading Company, of Odessa, and is now on its way, being towed by two steamers. The voyage is expected to take at least thirty days.

It has a lifting power of 4,800 tons and can raise a vessel of this weight in two and one-fourth hours. Constructed in two parts, it has the advantage of putting only one-half into action, in case a smaller vessel is to be lifted.

One part is built on four pontoons, each 11 feet 1$\frac{3}{16}$ inches high and 53 feet long, having a lifting power of 2,740 tons. The other part is built on three pontoons, each of the same dimensions, having a lifting power of 2,060 tons. The total length is 381 feet; width, 63 feet; width of walls, 8 feet 4¾ inches.

It is fitted with electric light and accommodations for office and cabin for crew.

The construction was begun December 12, 1900, and finished August 18, 1901, employing 600 men a day. The laborers received from 60 to 80 cents a day, the mechanics from $1 to $2.

The exact contract price is unknown, but the dock is valued at about $403,000.

FRANK DYER CHESTER,
Consul.

BUDAPEST, *September 10, 1901.*

NEW FUEL FOR SWEDISH RAILROADS.

Sweden imports yearly large quantities of coal and coke, and this trade is increasing steadily, in pace with the industrial activity and the building of new railroads. Several millions of dollars are annually paid out to foreign countries for fuel. This has caused the authorities to consider whether Sweden could be made more independent in this respect. It has been suggested that the State railroads could get their motive power partly from waterfalls, and experiments will probably be made in this line.

The managers of the State railroads have been instructed to make trials of peat, peat charcoal, and peat briquettes as fuel for locomotives. The intention is to construct a special locomotive to be used in these experiments, and if they are successful other engines will undoubtedly be built, because peat is abundant in this country.

The navy and the State railroads have also tried to use Swedish coal, but without much success; the efforts will he continued, however. A Gothenburg newspaper reports to-day as follows:

> In the new briquette factory at Elmhult, belonging to the State, experiments will be made this fall in the production of a cheap and practical fuel for Swedish railroads. In locomotive furnaces, Swedish coal can not be used alone, because it contains too much scrap and incombustible substances, which are not consumed, but form offal and ashes. It must therefore be mixed with English coal, but this is becoming more and more expensive. The possibility of using Swedish coal alone is therefore ideal, and the above-mentioned factory has been built to be employed in the attempts to make or refine Swedish coal into a good fuel. The factory will operate according to a German patented method, and has been put up under the supervision of a German. It will be started this fall, and the work will continue night and day. It is calculated that the output will be 36 briquettes per minute—that is, 51,840 per 24 hours, or 15 carloads of 10,000 kilograms per car. Experiments will first be made with 40 carloads of Swedish coal of the lowest grade.

ROBERT S. S. BERGH,
Consul.

GOTHENBURG, *September 25, 1901.*

SEA LIGHTERS IN EUROPE.

The iron sea lighter, sometimes rigged with single-sail masts and with a carrying capacity of from 500 to 1,350 tons dead weight, is an important factor in the North and Baltic Sea trade. German steamship companies first made extensive use of them shortly after the opening of the North Sea Canal, making an easy water route between the North and Baltic seas. To-day these lighters are in use in England, Russia, Norway, Sweden, and Denmark The North

German Lloyd and the Hamburg-American Line have each a small fleet of lighters.

Denmark has a fleet plying between Germany, Norway, and Sweden. Only quite recently, a local German steamship company had two steel lighters of about 700 tons dead weight built, to run between Sweden and Stettin. The small towing steamer is continually under way, leaving Stettin with one empty lighter and returning with a full one.

The principal advantages claimed for sea lighters are: Small cost of operating (crew consists of three or four men), low draft, rapidity of discharging or taking on cargo (there being practically one large hatch), small capital invested when compared with steamers of the same tonnage, and small expenses of maintenance.

All the principal ports of Germany have sea-lighter service. The North Sea Canal, the Dortmund-Ems, and the Elbe-Trave Canal greatly facilitate the practical use of these lighters. On the Rhine, they travel as far as Cologne, and in several instances they have gone by sea to Bordeaux, France.

The German-Russian Naphtha Import Company is now contemplating the building of tank lighters of about 1,400 tons carrying capacity, to be used in distributing the product throughout middle Europe.

JOHN E. KEHL,
STETTIN, *September 24, 1901.* *Consul.*

THE WORLD'S HOP CROP OF 1901.

Germany, including Bavaria, will have a very small hop crop this year. Germany's production last year was about 558,800 American hundredweights; this year's crop is estimated at only 313,500 cwts. On the other hand, Austria will have an exceedingly rich crop, a gain of about 89,100 cwts., and England will surpass all other countries, with the enormous yield of 660,000 cwts.

Hop picking in Bavaria will commence this week; in Bohemia, it began some time ago. The estimates below will, however, hardly be altered.

Of course, prices for Bavarian hops will be higher this year, but the fact that other countries—especially Bohemia and England, which have rich crops—will export largely, and also the fact that many Bavarian brewers have large stocks of hops, will keep down prices.

The table below gives not only this year's estimates, but also the figures of last year's crop, for purposes of comparison; it gives, as well, the consumption of hops throughout the world. This is estimated at 2,307,800 cwts., while this year's production, though larger than last year's, is only 2,003,100 cwts. One might infer that this deficiency would bring about a scarcity of hops, but it must not be forgotten that stocks are on hand from previous years.

GEORGE E. BALDWIN,
NUREMBERG, *August 29, 1901.* *Consul.*

Production and consumption of hops.

Country.	Crop of 1901.	Crop of 1900.	Consumption of hops.
	*Cwts.**	*Cwts.**	*Cwts.**
Germany:			
Bavaria	134,200	....	....
Wurttemberg	44,000	....	....
Baden	27,500	....	....
Alsace-Lorraine	71,500	....	....
Posen and East Prussia	23,100	....	....
Altmark and other districts	13,200	....	....
Total for Germany	313.500	558,800	544,500
Austria-Hungary:			
Bohemia	258,500	....	....
Galicia	19,800	....	....
Mähren	11,000	....	....
Upper Austria	7,700	....	....
Steyermark	17,600	....	....
Hungary-Siebenbürgen	8,800	....	....
Total for Austria-Hungary	323,400	234,300	187,000
France	49,500	44,000	68,200
Belgium and Holland	99,000	60,500	114,400
Russia	55,000	77,000	29,700
England	660,000	388,300	660,000
United States:			
Western Washington district	29,700	....	....
Eastern Washington district	25,740	....	....
California district	108,900	....	....
Sonoma country district	29,700	....	....
New York State	128,700	....	....
Oregon	162,360	....	....
Total for United States	485.100	415,800	704,000
Australia	17,600	17,600	
Grand total	2,003,100	1,796,300	2,307,800

* 100 pounds.

AMERICAN MACHINES IN ROUMANIA.

A recently published report of the German consul in Bucharest gives information as to Roumania's importation of machines and the condition of that market. The consul notes that during the past year the import of American harrows increased, and attributes this to their price, which is 15 to 20 per cent lower than the German article. He also says:

> In agricultural machines, the United States and Austro-Hungarian makers are the chief competitors of Germany. American firms having agencies are increasing their sales in Roumanian markets. They are meeting the wishes of the buyers in credit terms and peculiarities of style and construction, and are forcing the Austrian agencies to do likewise.

The consul urges German exporters to make efforts to retain their share of this trade.

SIMON W. HANAUER,
Deputy Consul-General.

FRANKFORT, *October 5, 1901.*

Consul-General Hughes, of Coburg, under date of September 24, 1901, says that a prominent business man from Roumania has told him of the many chances that Americans would have in that country. Factories of all kinds would be helped, according to his statements, by the Government, especially in the weaving and spinning lines. American goods have a hopeful future in Roumania, if properly introduced.

AMERICAN SPONGES IN HUNGARY.

The import of sponges into the Kingdom of Hungary in the year 1899 was:

Whence imported.	Value.	
	Crowns.	
Austria	330,000	$66,990.00
Trieste	22,000	4,466.00
Germany	33,000	6,699.00
Hamburg	8,800	1,786.40
Italy	17,600	3,572.80
Greece	6,600	1,339.80
Asiatic Turkey	4,400	893.20
British East Indies	11,000	2,233.00
Total	433,400	87,980.20

There is no export, except the jobbing trade with the Balkan States.

Although this table shows no direct import from the United States, American sponges are not unknown in the local market. They are, however, bought through middlemen in western European countries, principally Germany.

The leading merchant in sponges in Budapest is J. Behar Dánt. Erzsebet Körút 9. This firm supplies a greater part of the local trade.

The exact size of the trade can not be obtained, but American sponges are well spoken of on account of their comparative cheapness and good quality. Up to now, the bulk of the sponges on the local market has been procured, either directly or indirectly, from the Orient—*i. e.*, Greece, Turkey, and Persia—and sold as "Greek sponges." There seems to be no dissatisfaction with the way American sponges are packed, and they are not too sandy. The sponges for the Budapest trade will be received most favorably in bales of from 20 to 30 kilograms (44 to 66 pounds) in weight. The market here is ready and willing to buy American sponges direct, the above-mentioned dealer expressing a desire to buy as much as 11,500 pounds of our product yearly.

FRANK DYER CHESTER,
BUDAPEST, *September 30, 1901.* *Consul.*

GERMAN SEWING-MACHINE INDUSTRY.

It is proposed to materially increase the duty on sewing machines and stands, in the new customs tariff, in order to protect the German industry. The duty on cast-iron stands without machines will be raised from 3 to 5 marks (71 cents to $1.19); stands with machines, from 3 and 5 marks to 20 marks ($4.76); hand-power sewing machines, from 24 marks ($5.71) to 35 marks ($8.33).

From the United States, during 1894, sewing machines to the value of 400,000 marks ($95,200) were imported, while in 1900 machines worth 4,500,000 marks ($1,714,000) were entered. From Great Britain, during 1894, the import amounted to 2,300,000 marks ($500,238), and in 1900 to 3,600,000 marks ($857,380).

Of hand-power sewing machines, there were imported in the past year 34,382 cwts. from the United States and 4,520 cwts. from Great Britain. Of sewing-machine stands and parts of sewing machines, there was in 1899 an import of 39,708 cwts., against an export of 116,116 cwts.

Of sewing machines with stands, there were imported during

1899 83,916 cwts., 66,866 cwts.* of which came from England and only 15,358 cwts. from America, while the German export for that period amounted to more than 151,442 cwts. and went to all parts of the world except the United States. German sewing machines form a very important item of export, the manufacture greatly exceeding the home demand. In South America especially they compete with those from the United States.

If this industry is protected from foreign competition by a high tariff, the German manufacturers can not complain if other countries increase their import duties, thereby making German export difficult.

JOHN E. KEHL,
Consul.

STETTIN, *September 26, 1901.*

AMERICAN SEWING MACHINES IN EASTERN TURKEY.

The American sewing machine has been recently introduced into this consular district with signal success. It completely monopolizes the market, which hitherto has been occupied by machines of English or German make. The lightness, uniform excellence, adaptability to a variety of operations and low price have been promptly appreciated in this region; and all those who own the clumsier European make, when able to afford it, have replaced their machines by those of American manufacture.

Fifteen months ago, the agent of one of our leading sewing machine companies† settled at Mezreh. Since the opening of his agency he has sold three hundred machines—one-half in the twin cities of Harput and Mezreh, the remainder in the other towns and cities of this consular district. Sales have increased so rapidly that he confidently looks forward to doubling the business during the coming year. It is not a common thing in oriental countries to see a market so completely conquered in so short a time.

The success attending this attempt is such that American manufacturers desirous of securing a satisfactory foothold for their wares in the Orient may profitably note the methods employed by the company in question.

In the first place, the machines have a well-earned reputation at home and abroad. In the next place, an active, intelligent native agent is located here, whose whole time is devoted to pushing this one article. He conducts his propaganda much as an American drummer would, and is the antithesis of the typical oriental shopkeeper, smoking his nargileh while awaiting customers. A female employee is in attendance to give the necessary instruction. The agent carries on his operations throughout the two vilayets comprising this consular district, Mamouret-ul-Aziz and Diarbekir. Rent, salaries, and traveling expenses are so low in this region that but a small margin is needed to cover these items.

---

* Transshipments from the United States via England are credited as merchandise from England, which accounts for the large English export.

† The Singer Company.

The immediate success following this enterprise leads me to the conclusion that it is highly desirable for firms seeking to gain promptly a strong foothold in this region to send capable native agents, whose remuneration will depend largely on the amount of their sales, and whose efforts will be devoted exclusively to a single article, or to a small group of allied articles.

THOMAS H. NORTON,
Consul.

HARPUT, *September 16, 1901.*

SOAP AND SUBSTITUTES FOR SOAP IN SYRIA.

While toilet and shaving soaps are imported from abroad, the Syrian soap-manufacturing industry is by no means unimportant. I refer particularly to the Nablous, Haifa, and Tripoli soap factories. "Mount Carmel soap," manufactured by an American firm at Haifa, is in demand in the United States. Olive oil enters largely into the production of Syrian soap.

American importers will find in Syria an article which is extensively used for washing woolen stuffs, as it does not shrink them, to wit, the soapwort (*Saponaria officinalis*) root, which here takes the place of our wool soap, does the work equally well, and is incomparably cheaper. In my opinion, it would pay to import this root into the United States. Pressed into bales, it would form a product which could be conveniently transported. Letters on this subject may be addressed to H. Sabbag & fils, Beirut, Syria. The root is also successfully used in washing fresh and fast-colored cotton fabrics, as it prevents their fading. The Arabic name for this useful root is "shursh-halawy."

The Arabs of the interior use the desert shrubs called "ushran," of the family of *Salsolaceæ*, by burning them and extracting the soda from the ashes. Indeed, the ash is almost pure soda. A solution of it is powerfully detersive. They also use lye, procured by lixiviating the ashes of wood and charcoal, for washing clothes.

Sesame oil is commonly employed by Arabs for "cleaning" face and body; also for prickly heat, eczema, and other diseases of the skin. It is known here as "serej." In a native journal, the process is described as follows:

> The oil is diluted with water and applied to the parts suffering from prickly heat, generally at the time of going to bed. It allays the irritation and dries and removes the pimples in two or three applications. This oil is held in high esteem among the Arabs who live in the interior, who are in the habit of anointing their skins with it when they feel at night fatigued and tired from their day's work, as it gives vigor and firmness to the limbs and body, and enables the workmen to get up fresh and strong next morning. Besides, during the winter it has some effect in protecting the body from the piercing cold, as the Bedouins often go about without any coat. The oil is used for such a purpose pure, without water, and is rubbed briskly into the skin. The people universally believe that it conduces to good health. When there is high fever and the body is aching, the skin of the patient, whether he is an adult or a baby, is annointed with sesame (gingelly) oil and the patient gets relief, the skin becoming soft and the temperature reduced. This remedy is resorted to even by patients under the treatment of European doctors here.
>
> The Arabs do not use soap, as it disfigures the body and inflames it in a tropical climate; but they use various other remedies made from the leaves of certain shrubs which are obtainable very cheaply in abundance, are as efficacious as soap for removing grease, oil, and dirt, and refresh and cool the skin and render it clean and healthy. Some of these form a lather like soap, but exercise no injurious effect.

G. BIE RAVNDAL,
Consul.

BEIRUT, *September 26, 1901.*

MINING AND TRADE IN MADAGASCAR.

France has long looked upon Madagascar as a possession which would one day prove a source of great wealth, from its mines of lead, zinc, copper, manganese, nickel, iron, mercury, coal, and perhaps petroleum; but recent reports have greatly increased the expectations that were based upon the belief in large deposits of gold. The output of gold for three years has been:

1898	$66,000
1899	215,000
1900	608,000

The mines in the Ampassary country produced nearly half of the output of 1900, causing a rush of gold seekers to that region. Reports agree that the country has as yet hardly been touched for gold, and large regions are indicated on the maps where rich veins are believed to lie.

The importations into Madagascar—nearly all from France—amounted in 1900 to $7,579,177.40, an increase of $2,000,000 over the preceding year. The exportations from Madagascar to France for 1900 were $2,148,235.20, an increase of $538,953.60 over the previous year. The total commerce of Madagascar increased in 1900 to $10,127,414.60, against $7,192,604.40 for the previous year.

This is a most satisfactory showing, especially as the total commerce of the island for 1894 was only $3,400,000. The goods received represent largely wearing apparel, from Elbœuf, Rouen, and other parts of France. The exportations from the island colony consist largely of gold in ingots or dust, raffia, copra, india rubber, vegetable fiber, hides, and a small quantity of cotton.

JOHN C. COVERT,
Consul.

LYONS, *September 24, 1901.*

ELECTRIC AND RAILWAY DEVELOPMENTS IN KOREA.

On the night of August 17, the Seoul Electric Company formally opened its electric-lighting plant by turning on the power and illuminating the city by arc and incandescent lights. This lighting plant is run in connection with the electric street railway, the installation being of the polyphase direct-current alternating-current system. I append a report on the plant from the contractors.* The Seoul Electric Company is a Korean concern, but the builders and operators are American—Messrs. Collbran and Bostwick—who hold the plant on mortgage until all indebtedness is paid. This is not the first electric plant to be erected in Korea. In 1886, an Edison incandescent plant was installed in the palace, and was successfully operated until the boilers were worn out. In 1894, a new and very complete plant was erected by the American electrician of the Korean Government, Thomas W. Power, but the advent of the Japan-China war prevented its use for more than a short experimental period.

On August 20, at Yong Dong Po, just across the river from Seoul, on the line of the Seoul-Chemulpo Railway, work was begun in a formal manner upon the Seoul-Fusan Railway. This road, for which a Japanese company holds the concession, is to be 280 miles in length. It will connect Seoul with the southeastern port, and will pass through the rich agricultural region of southern Korea. The director informs me that some of the materials will be purchased in the United States. Persons wishing to communicate with the officers of the company in Korea may address the director, Mr. K. Takanouchi, Seoul, Korea, or Mr. Adachi, Chemulpo,

---

* Filed for reference in the Department.

Korea. It is expected that the road will be completed in six years. It will be of standard gauge, and there will be considerable bridge work. It will be operated in connection with the Seoul-Chemulpo Railway, over whose tracks and bridge the new road will enter Seoul. The Seoul-Chemulpo road, with a ten-span steel bridge, is of American construction and equipment.

A railway to connect Seoul and the northwest border town, Weichu or Weiju, is being surveyed. This is to be built by French engineers, using French material. It will tap the coal and gold mining region and may at some time, if built, connect with Russian roads in Manchuria. At present, I am informed that it is the intention to spend but 100,000 yen ($50,000) per annum upon it by the Korean Government. I believe there is some uncertainty as to where the necessary money is to come from. Mr. G. Lefevre, lately secretary of the French legation in Seoul, is director of this road. His address is Seoul, Korea.

HORACE N. ALLEN,
Minister.

SEOUL, *August 29, 1901.*

HANDKERCHIEFS, TOWELS, AND BUTTONS IN CHINA.

The following are annually imported into Niuchwang from foreign countries:

Article.	Value.	
	*Hk. taels.**	
Buttons	26,510	$18,219
Handkerchiefs:		
From Germany and England	55,743	39,967
From Japan	3.125	2,241
Towels:		
From England	40,520	29,053
From Japan	5,626	3,034

* Value of haikwan tael, July 1, 1901, 71.7 cents.

The amount of these articles imported into China is as follows:

Article.	Value.	
	Hk. taels.	
Handkerchiefs	299,441	$214,699
Towels	270,807	194,169
Buttons	332,690	238,539

As I have not been able to find that any of these come from the United States, I have thought it advisable to purchase samples and send them.* The samples are each marked with the price at wholesale at Niuchwang, together with the name of the country from which they came.

In the matter of buttons, I find that over half are brass and that a very large percentage of these are manufactured at Canton and sent to Hongkong, and therefore appear in the customs reports as being imported from there. The styles of these buttons change frequently.

The styles of figured handkerchiefs also change often. The figures are Chinese fruits, flowers, etc., and the designs are furnished by the Chinese merchants.

I hope that manufacturers in the United States will be sufficiently interested to look into this market for these things.

HENRY B. MILLER,
NIUCHWANG, *August 20, 1901.* *Consul.*

FOREIGN GOODS IN CHINA.

I give below an extended list of articles manufactured in foreign countries and now being used by the Chinese, together with the retail prices, country where they are made, and condition of trade.

One of the marked features of the trade in most things given in this list is the inferior quality of the goods. Cheapness seems to be the predominating characteristic. This is especially true of Japanese productions.

JAPANESE TRADE.

The Japanese are imitating a vast number of foreign goods and putting a cheaper quality on the market; they are especially shrewd in imitation of brands.

Something of the expansion and diversification of the trade of Japan will be observed from the great variety of things she sells to China. She understands the nature and character of the Chinese, makes a close study of the requirements, and caters to the peculiar artistic taste of the masses and their desire for very cheap goods.

CHINESE TRAITS.

It is one of the traits of the Chinese to handle the things they use very carefully, and hence cheap and poorly made articles will last much longer in service than with most people. Goods made in China would be of little value for use by Americans.

---

* Forwarded to the Philadelphia Commercial Museum.

This characteristic makes the Chinese market for flimsy, gaudy, and cheap things a good one in many lines. It is not, however, applicable to all branches, for the trade-mark of substantial and satisfactory products has a greater value here than in most countries.

The Chinese have an intense love for pictures and artistic ornamentation, such as flowers and figures on hand mirrors, wash basins, pitchers, etc. Those desiring to manufacture for the Chinese trade should make a careful study of this trait of their character, as in most things it will materially improve the sale of their goods. Articles that are to be sold in packages should always be ornamented to suit the Chinese taste.

The strength of the Chinese regard for ornaments and pictures of a cheap nature will be appreciated by observing the sale upon the the streets of every Chinese city of pictures and posters, such as are spread broadcast all over the United States free.

VOLUME OF TRADE.

While the trade in some of the things mentioned in this list is quite limited, in others it is very extensive; for instance, the sale of matches amounts to about 2,500,000 haikwan taels' ($1,800,000[*]) worth annually. Other goods sell annually as follows:

Article.	Value.	
	Hk. taels.	
Soap	700,000	$514,000
Umbrellas	400,000	288,000
Mirrors	100,000	72,000
Candles	350,000	252,000
Clocks	291,000	209,500
Handkerchiefs	300,000	216,000
Towels	270,000	195,400
Watches	122,000	87,800
Needles	642,000	462,200
Flour	3,330,000	2,397,600
Glassware	259,000	186,500
Aniline dyes	1,753,000	1,262,100
Nails	311,000	223,900
Old iron, horseshoes, etc	939,000	676,000

There is a constant increase in the variety of imports into China, and one of the causes of success in French trade, and still more in German trade, is the attention given to the desires and wants of the Chinese in regard to small lines of goods, and the ornamentation of goods and packages. The number of Germans in China who are establishing themselves in business is increasing very fast.

---

[*] Taking the average value of the haikwan tael in 1900 at 72 cents.

AMERICAN AGENTS NEEDED.

One of the most serious mistakes made by United States manufacturers is that they too readily trust their business to the hands of foreigners, many of whom have never been in our country and care nothing about it beyond the special line of goods they handle. It is perfectly natural for them, when a chance for trade in any other line comes before them, to introduce the goods from their home country. If the American goods now sold in China were handled entirely by American firms, I am convinced that the sale would be increased 25 per cent.

OLD-IRON IMPORTS.

One of the peculiar features of the trade in China is the great quantity of old iron imported—plates, tubes, wagon ties, horseshoes, railway spikes, wire rope, hoops, and general scrap iron. This is worked over, welded together, and put to various uses in the small blacksmith shops throughout the country. It illustrates the intense economy of the people and the small value of labor.

ADVERTISING.

I would emphasize the value of a careful study of Chinese ideas and prejudices in matters of advertising; for instance, in condensed milk. The Chinese have the idea that milk revives the youthful powers, and that it has special virtue as winter food for old people. Pictures and characters illustrating this idea, as well as the value of it for baby food, will without doubt increase the sale.

Proper advertising is of immense value in China, for fads and prejudices are more tenacious here than elsewhere.

It is an easy matter to send to China an article that will not be used; for instance, spoons made according to the foreign model are disliked, while those made after the Chinese form are increasing rapidly in sales.

IMITATIONS.

The country is being flooded with frauds and imitations; for instance, the American brand of Eagle milk has grown to be very popular with the Chinese, and imitations of it are put upon the market from Japan and Holland, and even Shanghai is manufacturing an imitation. One has the exact eagle of the Eagle brand on the can, but is printed Buzzard brand. The Chinese who can not read are caught by the figure of the eagle.

Another case was discovered where a can of fruit was marked "Small California Bartlett pears." The can contained the cheap, hard, inferior pear of China, and examination revealed the fact that this imitation was put up in Shanghai.

To avoid such imitations, every brand should have Chinese characters on the labels, and these labels should be properly recorded and protected at the United States consulate.

Hongkong and Canton are putting up fruits, vegetables, fish, birds, etc., in tins for the Chinese trade, and these goods are securing an extended market. I am therefore inclined to the opinion that there are possibilities for considerable trade in a very cheap line of canned fruits, such as would be counted culls in the United States. Most Chinese fruits are coarse and of poor flavor, and are in every way surpassed by the culls of the Pacific coast fruits. Cheapness is the main feature in the food supply of China, as well as in most things consumed by the Chinese, and whatever is imported here must have this as its primary virtue.

HENRY B. MILLER,
Consul.

NIUCHWANG, *August 12, 1901.*

Prices of foreign goods.

Description.	Retail prices.	Where made.	Condition of market.
Acid:	*Mexican.**		
Common sulphuric per pound	$0.04	Japan	Sales increasing.
Common nitric do	.20	do	Do.
Common hydroclor do	.10	do	Do.
Blankets:			
Cotton, various colors each	$1.00 to 2.00	Germany	Sales great; increasing.
Wool, largely scarlet do	7.00 to 14.00	America	Sales limited.
Biscuits:			
Various kinds per pound	.30 to .50	England	Do.
Gem, in fancy tins per tin	.35	do	Sales increasing.
Assorted, in 5-pound tins do	1.35	America	Sales fair.
Bicycles each	130.00	Italy and England	Do.
Do do	60.00 to 110.00	America	Do.
Bicycle lamps do	3.00 to 7.00	America, etc	
Bicycle bells do	3.00 to 4.00	do	Do.
Bead embroidery (glass)		Germany and France	Sales decreasing.
Brushes for hair and clothes (bristle and rubber), each.	.60 to 1.00	do	Sales increasing.
Buttons, glass and metal per gross	1.00 to 1.50	Germany	Do.
Borax, common per pound	.40 to .50	England	Do.
Brushes, tooth:			
Best quality each	.35 to .60	do	Do.
Common do	.05 to .10	Japan	Sales great.
Cameras	30.00 to 100.00	England	Sales limited.
Cigars, various per 100 pieces	.80 to 12.00	Manila	Sales increasing.
Cigarettes, various:			
Per box of 500	1.00 to 5.00	America	Increasing largely.
Per box of 250	1.50 to 2.00	Russia	Sales limited.
Candy:			
Various per pound	.90	America	Do.
In half-pound bottles each	.25	England	Sales increasing.
Candles, in case of 25 packages, of 9, 12, and 15 ounces.	(†)	England	Do.

---

*On account of the fluctuation in value of the Mexican dollar, no attempt has been made to reduce these figures to their equivalents in United States currency. The Treasury valuation on July 1, 1901, was 49 cents, and by dividing the prices given by two, the approximate values in gold at this time may be ascertained.

†$3, $5, and $7 each.

Prices of foreign goods—Continued.

Description.	Retail prices.	Where made.	Condition of market.
	Mexican.		
Corks (soft wood)...per gross	$0.75 to $1.00	England	Sales increasing.
Cotton ribbon, common...each	.30	England and Germany	Sales limited.
Cotton cloth (cotton and wool, various colors), per foot of 2 feet 3 inches.	.12 to .24	France and Germany	Sales increasing, but decrease when new styles are supplied.
Cigar and cigarette holders (various), each.	.74 to 5.00	Japan mostly	Sales increasing.
Candy (various drops, in half-pound bottles), per bottle.	.25	Germany and England	Do.
Clocks:			
Standard, one week...each	3.30	Japan	Do.
Alarm...do	2.60	America	Sales limited.
Small...do	2.00	Germany	Sales fair.*
Can goods (fishes, birds, and fruits), per tin.	.25 to .75	Hongkong	Sales increasing.
Broad cloth (wool and feathers, various colors), per yard.	2.50 to 3.00	Germany	Do.
Chemicals, various		Germany and England	Sales fair.
Copper sheets (4 feet by 8 feet), per picul.	60.00	England	Do.
Clocks and watches, iron (polished), per dozen.	6.00 to 13.00	Japan	Do.
Cotton thread, in balls of 50 yards, each.	.05	England and America	Sales increasing.
Drilling, cotton...per piece	4.50 to 6.00	America	Do.
Dry plates, photographic (various sizes), per dozen.	.60 to 10.00	England	Sales fair.
Drugs, various		do	Sales limited.
Dyes:			
Aniline			Very great.
Gentian...per pound	1.00		
Earrings, pearl and diamond (imitation).		Germany	Sales stopped.
Flannel, cotton (white and various colors), per yard.	.25	do	Sales increasing.
Flour, various marks	(†)	America	Do.
Do...per 50 pounds	1.70 to 1.65	Shanghai	Sales limited.
Files, steel (various sizes)...per inch	.04 to .06	England	Sales fair.
Glassware (tumblers, etc.), colored, each.	.12 to .60	England and Germany	Sales increasing.
Glass stones and beads, for ladies' embroidery, per gross.	.20	Germany	Sales fair.
Glass, pane...per 10 square inches	.05	Belgium	Sales increasing.
Ginseng...per ounce	2.00	America	Do.
Do...do	.50	Japan	Sales limited.
Do...per 16 ounces	55.00	Korea	Sales increasing.
Handkerchiefs:			
Cotton...per dozen	.50 to 1.75	Germany	Do.
White and colored...do	.75 to 1.75	England, France, and America.	Do.
Italian silks (3 feet by 40 yards), per yard.	.45 to .50	Italy	Sales fair.
Imitation tortoise-shell bracelets, per pair.	.50	France and Japan	Do.
Jewel cases, glass...each	1.50	France and Germany	Sales limited.
Knives (table cutlery and pocket-knives), per dozen.	2.00 to 8.00	England and Germany	Sales increasing.

*Chinese prefer the German on account of the 60 cents difference in price.

†$1.90, $1.88, and $1.75 per bag of 50 pounds.

Prices of foreign goods—Continued.

Description.	Retail price.	Where made.	Condition of market.
Kerosene oil:	*Mexican.*		
Best quality, per case of 2 tins	$2.00 to $3.00	America	Sales increasing.
Common quality		Russia	Sales limited.
Looking-glasses, hand, each	.30 to .80	Germany	Sales fair.
Lamps:			
Table and hanging, do	.75 to 9.50	do	Do.
Candles (cheap make), per pair	3.50	do	Do.
Lamp wicks, cotton (various sizes), per foot.	.01 to .05	Germany and England	Do.
Lamps, each	9.00 to 10.00	America	Sales limited.
Leather and canvas bags for travelers (various sizes), each.	4.00 to 8.00	Japan	Sales fair.
Canvas hand bags	1.50 to 6.00	Japan and Germany	Do.
Locks, various kinds	.75 to 2.50	England and Germany	Do.
Lead:			
Lumps, per picul	8.00	England and Belgium	Do.
Wire, per pound	.15	do	Sales increasing.
Sheets, do	.10	do	Do.
Tubes, do	.12	do	Do.
Mirrors:			
Small dressing case	3.00 to 4.50	France	Do.
Powder boxes, per dozen	4.50	Germany	Do.
Glass and porcelain, do	8.50	do	Do.
Hand and stand (small glass), per dozen.	9.50	Japan and Germany	Do.
Nails, wire (various sizes):			
Per pound	.09 to .20	France	Do.
Per 100 pounds	8.00	America	Do.
Needles, steel, per 10 pieces	.01 to .02	America and Germany	Do.
Milk, condensed (sweetened varieties):			
Eagle brand, per dozen	4.50	America	Do.
Maid brand, do	2.25	do	Do.
Morphine, muriate for antiopium, per pound.	44.00	England	Do.
Matches, per 10 small boxes	.035	Japan	Do.
Mouth organs, each	.20	Germany	Sales limited.
Oilcloth:			
Colored and figured (1 roll=15 by 50 feet), per roll.	3.75	England	Sales increasing.
Painted (3 feet 9 inches square feet *), each.	1.00	do	
Oil-lamp stoves for cooking, each	1.75 to 3.50	Germany	Do.
Paper (printing books, etc.)		England	Sales fair.
Patent medicine, various		England and America	Do.
Perfumery, various	Various.	England, Germany, and America.	Sales increasing.
Purses, leather (pocket), per dozen	.80 to 10.00	Germany, France, and America.	Do.
Perfumery bottles with rubber ball, each.	.45 to 1.25	Germany and France	Sales limited.
Perfume, white rose (in small bottles), per dozen.	1.50	Japan and France	Sales increasing.
Pickles, various	Various.	England	Sales limited.
Porcelain basin, plain and figured, per dozen.	2.00 to 7.00	Japan and Austria	Sales increasing.
Porcelain dinner and lunch section, per set.	1.75 to 3.00	Japan and Germany	Do.
Porcelain cooking, dinner, and tea sets.	Various.	do	Do.

* Just fit for a Chinese square table; made for China especially.

Prices of foreign goods—Continued.

Description.	Retail prices.	Where made.	Condition of market.
	Mexican.		
Plush, woolen and cotton, per yard of 26 inches wide.	$0.90	France and England	Sales increasing.
Quinine, sulphate.....per ounce bottle	$1.00 to 1.25	England and America	Do.
Rivets, iron (various sizes)..per pound	.09	Belgium and England	Sales fair.
Bolts and nuts (various sizes), per pound.	.12	do	Do.
Rings, diamond (imitation)........each	.25 to .75	France	Sales decreased.
Rubber tobacco purse........per dozen	2.25 to 3.50	England	Sales increasing.
Rubber shoes and boots, made for China (not overshoes), per pair.	.75 to 3.00	do	Do.
Ribbon, cotton and silk (flower and butterfly figure), per ball of 16 yards.	2.20 to 4.40	France	Do.
Rose soap, various sizes.....per dozen	.75 to 1.00	France, Germany, and Japan.	Do.
Sand paper........do	.20		Sales limited.
Soaps:			
Toilet........per dozen	.45 to 13.00	France and Germany	Sales increasing.
Cuticura........each	.50	America	Sales limited.
Bars, yellow........per dozen	1.10 to 2.75	America, Germany, and England.	Sales increasing.
Honey (square pieces), per box of 100 pieces.	4.50	England	Do.
Pears (square pieces)...per dozen	.90	do	Do.
Toilet Français........do	4.50	France	Sales limited.
Salt in bottle........per bottle	.25	England	Sales increasing.
Sardine fish in 1-pound and half-pound tins.	.15 to .25	France	Do.
Slate pencils........per gross	.40		Do.
Screws, brass and iron (various sizes)		England	Do.
Spectacles (cheap make)........each	1.00	France	Sales fair.
Socks, cotton:			
White........per dozen	1.50 to 8.00	Germany and France	Sales increasing.
Yellow........do	1.25 to 6.00	do	Do.
Silk cloth, flax and cotton (various figures and colors), per foot.	.50 to 1.50	France and Germany	Do.
Towels, cotton (various sizes), per dozen.	1.75 to 6.00	England	Do.
Do	.75 to 1.35	Germany and Japan	Do.
Tooth and hand brushes:			
Bristles........per dozen	1.50 to 4.50	Germany	Do.
Rubber........do	3.20	do	Do.
Tin jewelry box (8 inches to 16 inches), painted.	2.00 to 6.00	England	Do.
Tooth powder in small tins of various sizes or glass bottles.	.25 to 1.00	Japan, America, France, and England.	Do.
Tooth paste			Sales greater than powder.
Teacups, porcelain........each	.25 to .50	England and Germany	Sales increasing.
T cloth, cotton (34 inches by 48 inches), per piece.	2.00 to 4.00	America	Do.
Tin spoon (Chinese style, made for Chinese specially), per dozen.	.60	Germany	Do.
Tin box, round and fancy figured,* each.	.06	do	Do.
Thread, gold and silver.....per pound	4.50 to 6.00	Germany and England	Do.
Timbers:			
Teak wood (10 inches by 10 inches by 1 foot), per foot.	.20		

* Made specially for Chinese women to hold their powders.

Prices of foreign goods—Continued.

Description.	Retail prices.	Where made.	Condition of market.
Timbers—Continued.	*Mexican.*		
White wood (10 inches by 10 inches), per foot.	$0.10		
Oregon pine, various sizes,* per foot.	.15	America	
Umbrellas:			
Half cotton and half wool...each...	$1.00 to 3.00	Germany	Sales fair.
Cotton (cheap make)...do...	.45 to 1.35	Japan	Sales increasing.
Umbrella, silk (best quality)...do...	Various.	America	Sales limited.
Varnish, in glass bottles...do...	.75		Sales fair.
Do...do...	.45	Native	
Vermillion...per ounce...	.75 to 1.00		
Underwear:			
Woolen...per dozen...	13.00	Germany and France	Do.
Half cotton...do...	7.00	do	
All cotton...do...	4.00	do	
Shirtings, cotton:			
White...per piece...	6.00 to 7.50	England and America	Sales increasing.
Grey...do...	3.00 to 3.50	do	Do.
Watches, silver plate...each...	7.50 to 14.00	France	Do.
Iron:†			
Nail rod...per picul...	5.25	England	Do.
Iron tube...per foot...	.20 to .30	do	Do.
Sheet iron and angles...per picul...	6.75	do	Do.
Old iron—			
Horseshoe...do...	3.30	do	Do.
Cart iron...do...	3.75		Do.
Wire...do...	3.45		Do.
Cable, new and old...do...	4.20		Do.
Bar iron (flat, square, and round), per picul.	5.40		Do.
Hoop iron...per picul...	5.25		Do.
Bamboo steel...do...	9.30		Do.

NOTE.—Many Japanese products are being imported and sold at a very cheap price; for instance children's toys, viz, ships, animals, birds, fish, etc.; muscles in tins and many other canned goods; toilet soaps of various colors and flavors; linen handkerchiefs; towels; cotton socks and underwear, white and yellow; cotton and silk umbrellas; cotton and silk cloth of various colors; fans, paper and silk, figured; paint and embroidery; porcelain goods, basins, pans, teacups, etc.; and crockery.

* Used extensively by Chinese for building houses and for railway buildings.

† All iron, new and old, mostly come from England and Belgium.

GRAIN FOODS IN MANCHURIA.

The following is taken from a letter from Consul Miller, of Niuchwang, to a resident of Oregon:*

Kaoliang, or tall millet, wheat, corn, and small millet are the grains produced throughout Manchuria as food for man and beasts. Green beans are ground into flour, which is used in cakes to eat with tea. This is also mixed with kaoliang flour and made into vermicelli, which is extensively exported.

---

* To whom ADVANCE SHEETS have been sent.

Food stuffs for native use coming here would have to compete with these products, grown in a country where the soil is rich, the climate favorable to extensive production, and the country underpopulated. Much new territory is open for settlement.

There are, however, great variations in the prices of these foods, and during bad years corn meal as well as wheat flour might be extensively imported.

CEREALS.

Kaoliang, or tall millet, is extensively grown. The grain is used for food and the stalks for fuel and for buildings. The grain is ground in small native mills, and for general use is simply cracked or crushed, and is boiled and eaten in the same way as rice. When used for vermicelli or for making tea cakes, it is ground into a fine flour. The prices paid at the shops at retail range from 39 to 84 cents Mexican (18 to 41 cents gold) for 44 pounds.

Millet.—The ordinary millet is such as is grown in the United States, and is treated in preparation for food in the same way as the tall millet. This retails at from 66 cents to $1 Mexican (32 to 49 cents gold) for 54 pounds crushed.

Wheat.—This is considered a good wheat country and a quantity is grown and sold, and some little is exported from this port; but the staple food is millet. The natives in grinding wheat produce two grades of flour. One tou (48 pounds) of wheat produces 17 pounds of white, or first-grade, flour and 18 pounds of yellow, or second grade, making 35 pounds in all. Native wheat sells at 2 to 2.25 cents (0.9 to 1.1 cents) a pound, and the flour from 3.5 to 4 cents Mexican (1.7 to 1.9 cents) per pound at retail.

Foreign flour.—This has never been very extensively imported for native use until last year, and then it entered because of troubles in the interior that kept the natives from securing their usual food supply. This year, the importation has fallen off to a small quantity. The retail price of foreign flour is the same here as at Shanghai, ranging from $1.70 to $1.90 Mexican (83.3 cents to 86.1 cents) per 50-pound sack. Chinese flour, ground from Chinese wheat in the modern foreign style—roller process—at Shanghai, sells here for $1.60 Mexican (78.4 cents) per sack; considerably less than American flour. The native flour brings a higher price than foreign flour and is for most purposes preferred by the natives, because it is more sticky or tenacious.

Beans.—Beans are the main product of this country. Next in order of importance come tall millet, short millet, corn, and wheat. The chief exports are beans, bean cake, and bean oil to foreign countries, and tall millet and short millet to other Chinese ports.

Corn.—Corn is produced in considerable quantities for home consumption, and is used as food for man and beast. It is ground in small native mills. Corn meal retails for 2 cents Mexican per catty (1⅓ pounds), or 1.5 cents Mexican (0.735 cent) per pound. Tall-millet meal, or flour, is much finer and is generally preferred to the corn meal, which is rough and coarse. The tall-millet flour retails at the same price as corn meal, viz, 1.5 cents Mexican (0.735 cent) per pound.

Vermicelli.—Vermicelli retails at 10 to 14 cents Mexican per catty, or 7.5 to 10.5 cents Mexican (3.6 to 5.14 cents) per pound.

As a rule, the merchants do business on a very close margin of profit, and there is not a great difference between the wholesale and retail prices.

POPULATION AND TRANSPORTATION.

The estimated population of Manchuria is about 15,000,000, and most of these are now easily reached by river and rail transportation. The Manchuria branch of the Siberian Railroad will soon be ready for traffic, and by winter there will be wharfage at Dalny to berth four steamers at a time, and the road will be open through.

TRADE AT NIUCHWANG.

The Department has received from Mr. Squiers, secretary of legation at Pekin, copy of a report by Consul Miller on the trade of Niuchwang for the quarter ended June 30, 1901. The figures, Mr. Squiers notes, are interesting, as it is the first time that native customs have been collected by the Imperial Maritime Customs. Unfortunately, there are no data showing amount collected under native control.

A note from the officer in charge to the Inspector-General of Customs reads:

> The imperial Russian provisional civil administration having opened a customhouse to collect, under foreign supervision, dues and likin on junk cargoes, I transmit the statistics of that trade from the 1st of April to the 30th of June, 1901.
>
> On all cargoes arriving or leaving by sea-going junks, dues and duties were collected at treaty-tariff rates—likin at the rate of four-fifths of 1 per cent ad valorem on imports and one-half of 1 per cent ad valorem on exports, except on certain staples, which were reduced last May to the rate formerly assessed by the native customs. Boats trading up river paid tonnage dues, but no duties were levied on other cargoes.

The dues, duties, and likin collected during the quarter amounted to 132,324 haikwan taels* ($94,876), of which import duty covered

---

*Value of haikwan tael on July 1, 1901, 71.7 cents.

38,000 haikwan taels ($27,246) and export duty 32,000 haikwan taels ($22,944).

In transmitting the above, Consul Miller notes that the new tariff rates established by the Russians were said to be about eight times the previous Chinese tax, but on a petition of the Chinese merchants the rates were reduced, experimentally, until August 1. The tariff on indian corn is 0.03 tael (2.15 cents) per picul (133⅓ pounds); on grains, 0.01 tael (0.717 cent); on bean cake, 0.02 tael (1.434 cents); on fine china ware, 1 tael (71.7 cents) per bundle; on coarse china, 0.6 tael (43.02 cents); on black tea, 0.9 tael (64.5 cents) per picul; etc. He continues:

In addition to the above, and to the regular treaty duties, a tax of 2.5 taels ($1.79) per annum is placed on each junk navigating the river, and tonnage dues of 2 cash (0.001434 cent) per ton on each junk going up the river, each trip. There is also a tonnage tax on each ocean junk, somewhat higher than the above.

A system of numbering and recording junks is being established, and already the number of river craft recorded is above 13,000.

In the regular customs report for the quarter ended June 30, 1901, which practically represents the trade for the first half year (as the amount for the first quarter is very insignificant on account of the river being frozen), there is very little of special interest except to note that both the imports and exports fall considerably below those of the corresponding period for the two preceding years, the American piece-goods trade being only a little over one-half of what it was in 1899 and about the same as for the corresponding period of last year.

The importation of American flour increased as follows: From 208 taels ($140) for the second quarter in 1898* to 48,082 taels ($34,330) in 1899, and to 225,087 taels ($161,387) in 1900, and is reduced again to 26,287 taels ($18,847) for this last quarter.

The large increase for 1900 was due to the closing of trade in the interior and the scarcity of native flour, and does not indicate a natural increase in the trade.

The amount of American kerosene imported during the quarter was 827,000 gallons, the largest quantity ever imported during a corresponding period. This is no doubt due to the small amount imported last year and the consequent light stock on hand.

All reports from the interior are most favorable regarding conditions of climate for this year's products, and crops never looked better or promised greater yield than at present.

---

* The haikwan tael was valued for this quarter in 1898 at 67.3 cents; in 1899, at 71.4 cents; in 1900, at 71.7 cents.

TAXES ON GRAIN TRANSPORT IN CHINA.

Under date of September 5, 1901, Minister Conger transmits from Pekin translation of an imperial edict which aims at the abolition of the grain-transport service and the commutation of the taxes in kind paid by certain provinces for a money payment. He says:

This is a reform which has several times in recent years been urged upon the Chinese Government. The matter has been under consideration for some months past, and the straitened condition of the imperial treasury has given additional weight to the arguments in favor of the change. It is an economical measure that, if properly carried out, will, it is estimated, effect a saving to the treasury of some 8,000,000 taels per annum—that is, more than $5,000,000. The provinces which have been accustomed to paying a part of their land tax in kind are the grain-producing (particularly rice-producing) provinces in the Yangtze Valley, with Honan and Shantung, which border the Yellow River. The tax is really never paid in kind by the farmer, however, but commuted at the yamên for a cash payment, and the money thus obtained is used to purchase grain in the market, which is forwarded at stated seasons to the capital. Originally, most of it was sent by the Grand Canal, but, since the introduction of steamships, more and more of it each year has been shipped by sea. At the close of the Tai-p'ing rebellion, some portions of the provinces on the Upper Yangtze and of Honan were permitted to commute their tax in grain for a money payment, and the largest amount sent in recent years is reported to be no more than 2,000,000 piculs (about 133,000 tons). This method of collecting taxes is, of course, a most costly one, but the number of persons connected with the grain transport and depending upon it for a living is so large that every effort heretofore made to effect the change has met with bitter opposition.

The edict reads:

COMMUTATION OF TAXES IN KIND.

[Translated from the Pekin Gazette, of August 28.]

The following edict was received on the 2d day of the seventh moon (August 15, 1901):

The grain transport service having been in existence a long time, a great many abuses have grown up. Embezzlements have occurred without end, which have wasted the imperial stores and consumed the life of the people. The present is a time of great difficulty; the revenues of the State are deficient, and every exertion should be made to get rid of extravagance and put things in order.

Beginning with the present year, let the collections of grain from the various provinces—both the shipments by sea and by canal—be commuted for a money payment in silver, and let the viceroys and governors charged with this responsibility carefully calculate the amounts to be paid, and set aside these funds, together with the savings that will be effected in office expenditure and cost of transport, and hold both these sums in reserve, subject to the orders of the board of revenue.

Let them also carefully estimate the overcharges made hitherto by the various departments and districts, and direct the local magistrates to make a detailed account of the same and refund the whole to the Government. It is hoped that a considerable amount may be recovered. Then let the said viceroys and governors report to the Throne the total amounts of the sums held in reserve, as above directed, and of these sums refunded.

As to the granaries, they will be of important service. The transport of grain from the south having thus been exchanged for a cash payment in silver careful regulations ought to be made for the future supply; that is, for the selection, purchase, shipment, receipt, storage, and preparation of the grain for the imperial use, and for the prevention of corrupt practices after it has been placed in the granaries. Let the director-general of the grain transport and the grain supervisors of the board of revenue consult together and decide upon satisfactory regulations for these various matters, and report back to us within two months. On no account let there be the least delay. Let this edict be made known to all. Respect this.

[NOTE.—It is the purpose of the Government to go into the market and purchase such supplies as may be needed by the court, and the granaries will still be needed for storage.—*Translator.*]

PAYMENT OF CUSTOMS DUES IN CHINA.

The Department has received from Minister Conger, of Pekin, under date of August 24, 1901, copy of a note from Prince Ch'ing, dated August 21, 1901, relating to the receipt of drawback certificates in payment of customs dues, and also copy of a letter addressed by the minister to all United States consuls in China embodying the same information. The note from Prince Ch'ing to Mr. Conger is as follows:

Ch'ing, minister plenipotentiary, general manager of the Board of Foreign Affairs, and prince of the first rank, sends this dispatch:

I have recently received a communication from the superintendent of trade for the south (Viceroy Liu, at Nankin), saying that he had received a dispatch from the German consul at Nankin expressing the opinion that the drawback certificates for native goods ought to be allowed to be used for payment of any sort of customs duties, and the viceroy requested that the matter might be taken into consideration and a reply sent to him. On receipt of this dispatch, I made an examination and found that, according to the regulations followed by the customs for many years past, the drawback certificates for native goods could only be used in payment of the half duty collected on native goods reimported. In the fourteenth year of Kwanghsu, a new regulation was adopted at the custom-house in the Yangtze Valley, owing to the losses suffered by foreign merchants, and as a special compromise it was agreed that, beginning with the one hundred and twelfth quarter, drawback certificates for native goods might be used to offset any sort of customs duty, but that any drawback certificates issued before the one hundred and twelfth quarter could only be employed according to the old rule in payment of the half duty on reimports. Notification of this was sent to the various powers, of which there is record.

Now, our board, with the purpose of showing due consideration to the interests of Chinese and foreign merchants, have made another compromise, and, following the precedent of the custom-houses in the Yangtze Valley, have decided, beginning with the one hundred and sixty-fourth quarter (the present customs quarter), that all drawback certificates issued for native goods shall be permitted to be used in payment of any sort of customs duty, but that all drawback certificates issued before the one hundred and sixty-fourth quarter may only be used to offset duties on native goods, in order that there may be a clear line of demarkation made. But it is still not permissible to use this sort of drawback certificate in payment of tonnage dues, lest it should occasion confusion. Besides communicating this decision to the superintendents of trade for the north and the south, respectively, and directing them to issue orders to the various custom-houses to act accordingly, I, as in duty bound, send this dispatch for your excellency's information, and trust that your excellency will transmit directions to consuls of your honorable country residing at various ports to observe the regulations.

Kwanghsu, twenty-seventh year, seventh moon, eighth day (August 21, 1901).

LABOR CONDITIONS IN JAPAN.

The Japan Gazette of June 25 contained a translation of an article on "The want of skilled labor in Japan," which had appeared in the Asahi, a Japanese newspaper. It says:

> The Japanese believe that wages are low in Japan, though the rate of interest is high. It is true wages are low, but Japan wants skilled labor, and there is a great difference as compared with Europe and America as to the amount of production, and therefore wages are actually higher in Japan than in Europe and America, when the cost of labor is taken into consideration. Take the spinning industry, for instance. The average wages in South America are about 1 yen (50 cents), whereas they are about one-fourth of that in Japan. Yet the individual amount of production is much more in the former than in the latter. In Japan, some one thousand hands are employed in a spinning mill of 10,000 spindles, whereas in America about two hundred are sufficient in a factory of a similar capacity. * * * Despite the fact that the Government pays "encouragement money," or a bonus, for every ship built in Japan, and that each ship built abroad involves the expense of bringing it home, most orders are given to foreign builders. This is because the cost is lower in the aggregate in foreign countries than in Japan.

The writer concludes that the lack of skilled labor is a serious hindrance to the introduction of foreign capital, so earnestly desired by Japanese financiers.

The Gazette of May 15 quotes the following from an article by Mr. K. Kawakami, a native writer:

> Children under 10 years, even of scarcely 6 or 5 years of age, are largely employed in factories, and men are generally made to work for injuriously excessive long hours, while women have to work for the same periods to which the men are subjected, and, like them, they have to work in the nighttime, too. It is no exaggeration to say that fourteen, sixteen, and even eighteen hours a day are often worked in factories.

The same article, after giving a table which shows that in most factories there are more than three hundred and twenty working-days per year, comments severely on the lack of provision for the health and lives of the employees, and says that the Tokyo Tramway Company, which pays a dividend of from 30 to 40 per cent, pays its laborers $5 to $6 a month, and works them from fourteen to seventeen hours a day. He adds that in many factories no provision is made for suitable ventilation and lung diseases are very common among the employees, while the arrangements are such that in case of fire escape would be almost impossible.

Japan has no laws for the protection of labor, or restricting the employment of women and children, but the subject is being considerably discussed, and in the many articles relating to this matter which have appeared in the local papers lately are frequent references to the labor laws of England and America. While the industrial and economic conditions of Japan would hardly warrant such close restrictive measures as are enforced in those countries, it is believed that some law of this kind will be introduced at the next session of the Diet. It is interesting to note, in this connection, that the agitation which has arisen on this subject comes principally from the educated and professional or leisure classes, rather than from the laborers themselves.

The Japan Mail of June 18 gives an extract from an editorial in the Jiji Shimpo, deprecating the agitation of socialistic subjects. It asserts that the rich and poor of Japan are not separated by a gulf comparable with that dividing the plutocrat and pauper in the West, and that the poor man here, with his compensations in holidays, fêtes, and festivals, finds nothing intolerable in his lot. It ascribes the content of the working classes in part to the lack of ostentation in the lives of the very rich, the Japanese house and manner of living not offering such opportunities for magnificence and luxury as those of Europe and America, and rich Japanese usually preferring to avoid any display of extravagance.

E. C. BELLOWS,
YOKOHAMA, *August 27, 1901.* *Consul-General.*

FURS OF THE UPPER YUKON.

Dawson is the central market for a vast extent of fur-bearing country, stretching from the Mackenzie Basin to the coast range and from the Porcupine to the Hootalinqua. In this area, perhaps 1,000 men are engaged in hunting and trapping, exclusive of the Indians; and from Dawson, fully 40,000 peltries are annually exported to the great fur markets of London and New York. The industry yields a revenue every year of nearly $350,000.

The season is now at hand when the hunters and trappers are moving their outfits to the various rivers and streams where they will winter, and men are leaving town almost daily for their long sojourn amid the "great white silence." In most cases, the work of reaching their destination is of an intensely arduous nature, as they must pole their canoes to the head waters of the swiftest streams, make long portages, and penetrate pathless woods. But no hardships daunt these Yukon trappers, and they well deserve the success they so frequently achieve.

In the local fur market, London quotations govern. These are fixed twice a year—in March and August—by a board of principal dealers in that city, and prices are gauged according to that scale in all parts of the world except Russia. The present rates, compared with last year's prices, show an increase on bear, beaver, otter, and mink, and a decrease on silver-gray fox, marten, wolf, and wolverine. On most other peltries, quotations are the same. A wide difference is often noted between the maximum and the minimum figures; this is due to variations in the shade and quality of the fur, and to the time of the year in which the animal was caught. For instance, pelts of bears caught in the spring, just after the hibernating process is over, are worth much more than those secured in the fall, because their fur is soft and thick, instead of harsh and thin. In all pelts, winter fur commands often three times as much as summer fur in price, and in most cases dark-colored fur is worth much more than the lighter varieties.

Local dealers say the pelts in this vicinity are of better quality and obtain higher prices than those taken along the Lower Yukon and on the Alaskan coast. The hair is softer and more glossy in appearance.

In varieties, marten are the most numerous and black fox the scarcest. The latter is the most valuable of all, a good pelt readily bringing $300; and muskrat is the least costly, being worth only 4 cents.

The favorite rivers among the trappers are the Pelly, White, Stewart, and Porcupine, while game hunters prefer the Klondike and Forty Mile, because of their accessibility to a ready market. The Big and Little Salmon, Hootalinqua, Chandelar, and Selwyn rivers are also frequented by many trappers, while a goodly band is scattered along the Yukon itself. The Peel and other streams flowing into the Mackenzie Basin are also considered choice trapping grounds.

The annual production of the different varieties of pelts, their market value, and special facts distinguishing their distribution are given as follows:

Bear.—Black, silver tip, brown, grizzly, and cinnamon; found all over the country from March to November; number shipped, 3,000; price, $10 to $25. It takes an exceptionally fine skin to bring more than the maximum figure quoted.

Beaver.—On all streams, but chiefly numerous on White, Pelly, and Stewart rivers; number shipped, 2,500; price, $3.50 to $7.

Mink.—On all streams; number shipped, 1,500; price, $1.50 to $3.

Marten.—On all streams; number shipped, 25,000 to 30,000; price, $3.50 to $12.

Otter.—On Pelly and along the Yukon, most of the pelts coming from below Dawson; number shipped, 200; price, $4 to $8.

Foxes.—Red; number shipped, 2,000; price, $1.25 to $2.50. Cross; number shipped, 650; price, $3 to $10. Silver gray; number shipped, 25 to 40; price, $100 to $200. Black; number shipped, 5 to 7; price, $200 to $300.

Lynx.—Mostly from along the Dalton trail; number shipped, 2,000; price, $1 to $2.50.

Wolves.—Black and gray, mainly near the mountains; number shipped, 2,000; price, $1 to $2.50.

J. C. McCOOK,
Consul.

DAWSON CITY, *September 9, 1901.*

TARIFF ON SHOES IN COSTA RICA.

By a decree of September 17, 1901, the following schedule of duties was applied on and after that date to all boots and shoes imported into the country:

Description.	Duty.	
	Costa Rican currency.	United States currency.
Of ordinary leather, double soled, with iron or wooden pegs, per kilogram (2.2046 pounds) gross weight	$1.00	$0.467
Of common calfskin, single or double soled, sewed or unsewed, per kilogram gross weight	2.00	.934
Of leather finer than calfskin, of kid, "satin," "cordoban," and others, already varnished, pegged or sewed, single or double soled, per kilogram gross	3.50	1.634
Of cloth, with or without tips of leather, sewed or pegged:		
Cotton per kilogram gross	2.00	.934
Wool do	3.00	1.40
Silk, with or without embroidery do	4.50	2.102

Boots or shoes partly made, or parts of which are introduced in cuttings, separate or backstitched, with or without lining, will pay duty according to their class, with an additional charge of 25 per cent.

In addition to the aforesaid duties, there will be collected the 50 per cent established by the decree of April 27, 1901, and in applying these rates no difference will be made in the kind.

With the addition of 50 per cent, the rates are:

Description.	Duty.	
	Costa Rican currency.	United States currency.
Leather shoes:		
First class……per kilogram…	$1.50	$0.70
Second class……do……	3.00	1.40
Third class……do……	5.25	2.44
Cloth shoes:		
First class……do……	3.00	1.40
Second class……do……	4.50	2.09
Third class……do……	6.75	3.14

If partly made, adding 25 per cent to rates and then 50 per cent, the duties are:

Description.	Duty.	
	Costa Rican currency.	United States currency.
Leather shoes:		
First class……per kilogram…	$1.875	$0.87
Second class……do……	3.75	1.74
Third class……do……	6.56	3.05
Cloth shoes:		
First class……do……	3.75	1.74
Second class……do……	5.625	2.62
Third class……do……	8.43	3.94

The duties are a heavy increase over those heretofore in force and are nearly, if not quite, prohibitive.

JOHN C. CALDWELL,
Consul.

SAN JOSÉ, *September 26, 1901.*

CENTRAL AMERICAN TREATIES.

Consul Sorsby transmits from San Juan del Norte, October 2, 1901, translation of the treaty of commercial law adopted between the Republics of Nicaragua, Honduras, Guatemala, Salvador, and Costa Rica.

The treaty reads in substance:

TREATY OF COMMERCIAL RIGHTS BETWEEN CENTRAL AMERICAN STATES.

The Governments of Nicaragua, Costa Rica, Guatemala, Honduras, and Salvador, through the medium of their representative plenipotentiary delegates, have agreed as follows:

ARTICLE 1. To ratify the treaty respecting commercial law which was adopted in Guatemala June 15, 1897, by the delegates of the First Central American Judicial Congress, with the modification of article 37, which, for the sake of clearness, is as follows:

"This treaty shall become the law of the republic which accepts it from the time of the promulgation of the respective ratification and shall become as an international compact between two or more states from the notice of their approbation, which shall be equivalent to an exchange.

"The nonacceptance of one or more of the clauses of this treaty shall not annul or impair the legal force of the remaining clauses."

The consul also notes that the treaty of friendship and commerce between Mexico and Nicaragua has been approved, and was signed by the President and Minister for Foreign Affairs of Nicaragua September 2, 1901.

Under date of October 3, 1901, Consul Sorsby sends translation of the treaty of international law between Nicaragua, Honduras, Salvador, Guatemala, and Costa Rica, celebrated at San Salvador on the 12th day of February, 1901, the chief clauses of which follow:

The Governments of the Republics, through their respective plenipotentiaries, celebrated the following treaty:

ARTICLE 1. The natural or manufactured products of the States of Central America shall be free from fiscal or municipal duties of import and export in each one of the states.

This privilege does not extend to articles prohibited and of illicit commerce, to the preparations or manufactures of the same, nor to articles sent from one port to another in transit as foreign merchandise. The respective Governments may independently or jointly establish such rules as may be thought necessary to prevent frauds upon the treasury.

ART. 2. Refers to the right of Central Americans to pursue their professions in any one of the countries.

ART. 3. Refers to the discharge of public functions by Central Americans in any other state than the one in which they reside.

ART. 4. The diplomatic and consular representatives may unite in the name of the Republic of Central America whenever solicited by any of the signatory parties, for affairs in which they are not exclusively interested.

ART. 5. The five Republics will act in accord relative to the exhibition of the products of Central America abroad.

ART. 6. The signatory Governments bind themselves to terminate by means of arbitration whatever question or difference may arise between them, if a satisfactory termination can not be reached by diplomatic means.

ART. 7. At least every five years, a congress of the plenipotentiaries of the five Republics will convene with the object of revising and reforming and amplifying this treaty, and for the incorporation of other clauses that may be considered opportune or necessary for the advancement of the work of unification in the legislation of the States. The next session will be held on January 15, 1903, in the city of San José, Costa Rica.

ART. 8. This treaty shall become the law of the Republic accepting it, from the time of the promulgation of the respective ratification, and shall be in force as an international compact between two or more states from the date of the communication of their approbation, which shall be equivalent to an exchange of ratifications.

The rejection of one or more of the clauses of this treaty shall not impair the legal force of the other clauses.

COMMERCIAL CONDITIONS OF HAITI.

Under date of October 5, 1901, Minister Powell, of Port au Prince, reports that merchants doing business with the United States have largely increased their orders for all classes of merchandise and provisions, in order to take advantage of the old law, by which the duty on all imports was paid in the currency of the country. The importation has been greater during the month of September than during the past nine months. The custom-houses at all of the large open ports are filled with goods. Importers are not required to remove these goods immediately, but take them out as they pay the duty on them. The new law* went into effect on October 1, 1901; it provides that the surtax shall hereafter be payable in gold, and that the export duty on coffee and logwood shall be reduced. Another commercial rule in force here is: If a vessel arrives and enters any of the open ports of the Republic before 5 p. m. on the day prior to the law taking effect, she is considered to have entered all of the ports of the Republic and can afterwards discharge her cargo at any of the other ports under the old law.

The coffee crop, which is much larger than for the past ten years, is rapidly coming in; none has yet been exported, as dealers are waiting for the new law to take effect. Exchange is rapidly falling, and coffee is increasing in value in the French market.

---

*See ADVANCE SHEETS No. 1165 (October 18, 1901).

During the past year, the Government has not had to resort to loans, as has formerly been done. Employees have been regularly paid, and the country may be said to be in a better financial condition than it has been for the past six years.

THE SUGAR TRADE IN BRAZIL.

In the bulletin of the French board of trade here, an expert publishes a very interesting article on the sugar trade in Brazil, from which the Brazilian Review makes the following extracts:

The manufacture and commerce of cane sugar in Brazil, although of considerable importance, have hitherto never attracted much attention from European or American capitalists.

Both English and Americans purchase to a certain amount in these markets, principally in the north, and, as will be seen by the following figures, these purchases, principally for New York and Liverpool, are by no means inconsiderable.

ANNUAL PRODUCTION.

The annual sugar production in Brazil is estimated at 250,000 tons, distributed as follows:

Producing district.	Factories.	Mills.	Quantity.
	Number.	*Number.*	*Bags.*
Pernambuco	30	1,500	2,000,000
Parahyba	1	200	90,000
Campos (Rio de Janeiro)	40	400	450,000
Sao Paulo	5		200,000
Bahia	12	200	300,000
Alagôas	2	600	800,000
Sergipe	1	700	80,000
Minas and Rio	6	50	120,000
Total			4,040,000

EXPORT.

The export of sugar to foreign countries in 1900 was about 30,000 tons, and the remaining 220,000 tons were shipped to different States of the Republic or consumed on the spot.

Not only is there no premium for export, but, in fact, sugar is subject to an export duty, which is always a cause of complaint.

In 1900, exports to foreign countries were, in round numbers, 31,060 tons—to New York, 25,000 tons; to Liverpool, 6,000 tons; and to Havre, 60 tons.

In 1901, exports took a somewhat larger development, statistics up to the end of April giving the following results: From Pernambuco, 30,000 tons; from Maceio, 20,090 tons; or 50,090 tons in all in four months, against 31,600 tons for the whole year of 1900.

FACTORIES.—SMALL YIELD THROUGH POOR METHODS.

Compared with the large area under cultivation, the factories are but few. In only one is the diffusion process actually employed. Machinery has been furnished principally by Cail, Fives Lille, and some German makers, and, although of the most modern kind, is often incomplete. For this reason, the vacuum pans are often unaccompanied by the triple-action engines.

A better idea will be obtained of the working of those factories from the fact that the average yield is only 7 per cent, while by the diffusion process 11 per cent can be obtained.

The factories may be divided into two distinct classes, the central factories and the small mills in which sugar is made by the old process, the latter being very numerous in some districts.

The personnel of the central factories is generally composed of foreigners in the early periods, but is nearly always substituted by nationals later on. There are, however, some factories, especially in Sao Paulo, which are entirely directed by foreigners. The capital employed is almost entirely national, with the exception of a few central factories in Bahia and Pernambuco worked by English capital, and in Sao Paulo with French.

PRICES.—BAD CONDITION OF THE HOME MARKET.

In order to form an idea of the value of sugar in Brazil, it is necessary to take the average of three preceding seasons, as this year prices have fallen so terribly in consequence of special local conditions and the financial crisis through which the country is passing.

The disappearance of the great commission houses has left the market without guide or direction, and has obliged both central factories and small mills to often consign their sugar to parties unable to hold it back.

To this must be added the difficulties of discount and credit produced by the financial crisis, which have prevented any operations on a large scale and greatly reduced the importance of this class of operations.

During the last three years, sugars were quoted in the Rio market as follows:

Description.	1898.		1899.		1900.	
	*Reis.**	*Cents.*	*Reis.**	*Cents.*	*Reis.**	*Cents.*
White crystals..........per kilogram†...	550	8.8	700	11.2	500	8
Yellow crystals..........do......	450	7.2	600	9.6	400	6.4
Bruto secco..........do......	420	6.7	450	7.2	350	5.6
Bruto melado..........do......	320	5.1	400	6.4	250	4

* Taking the average value of the milreis (1,000 reis=1 milreis) in these years at 16 cents, as given in Commercial Relations, 1899 and 1900.

† 1 kilogram=2.2046 pounds.

In 1901, in consequence of the circumstances we have enumerated, prices fell as follows:

Description.	Price.	
	Reis.	*Cents.*
White crystals..........per kilogram...	280	4.4
Yellow crystals..........do......	240	3.8
Bruto secco..........do......	220	3.5
Bruto melado..........do......	160	2.5

The central and other factories generally consign their sugars to Rio de Janeiro, the principal market.

The amount sold at Rio on account of the factories is calculated at 80,000 tons per annum.

Consignments are made drawing for 80 per cent of the value of the sugar, consignees receiving 5 per cent on the sale and interest on the amount advanced. But at the present moment consignments are too much split up, and the market consequently lacks direction.

CHANCES FOR A SUGAR TRUST.

A few houses, especially German, have attempted to concentrate at least a part of the production, but they have found difficulties in coming to terms with the factories, and up to the present nothing definite has been done toward forming a sugar trust. The undertaking, however, is far from impossible, would require moderate capital, would certainly give large profits, and is therefore well worth studying.

A syndicate with four agencies at Rio de Janeiro and Campos, Pernambuco and Maceio, Bahia and Aracuju, and Sao Paulo could not only monopolize the Brazilian market, but also the export trade, and thus reunite the numerous, scattered and often counteracting forces into a single effort for the general welfare.

NO SUGAR REFINERY IN BRAZIL.

It is extraordinary that with so considerable a production and consumption of sugar, there should be no regular refinery in Brazil. At present, the different sugars—raw, crystals, whites, yellows, etc.—are generally worked up by small refineries into more or less white powder, which goes by the name of refined sugar in the country.

We understand that one of the most successful of the central factories—that of Parahyba and Sergipe—is endeavoring to arrange the establishment of a refinery on a great scale in the city of Rio de Janeiro.

OLD BUT UNDEVELOPED.

Summing up, the sugar industry in Brazil is, compared with the enormous area fit for production, yet in its infancy. What has still to be done is to complete the factories, improve the cultivation of the cane, create a great refinery, and give a single direction to the interior and exterior commerce.

OPPORTUNITY FOR AMERICAN CAPITAL.

A gentleman well acquainted with sugar production in Brazil told me that through the introduction of modern machinery and methods, the sugar industry could be made very remunerative here. In this connection, I wish to state that the majority of the shares of a corporation owning the two largest and best sugar factories in Brazil, and enjoying very valuable concessions and privileges, can be bought at what would seem to be very reasonable figures. This is the time to pick up industrial bargains in Brazil.

EUGENE SEEGER,
Consul-General.

RIO DE JANEIRO, *September 6, 1901.*

OPENING FOR AMERICAN COAL IN BRAZIL.

Consul-General Seeger sends from Rio de Janeiro, August 28, 1901, translation of a communication from a well-known Brazilian merchant, which he thinks may be of interest to our coal dealers. Mr. Seeger says:

About the end of October the Brazilian Government will probably ask for bids for the furnishing of 60,000 tons of hard coal for the Central Railroad, to be delivered during the six months commencing January 1, 1902. For various reasons, I am inclined to believe that American dealers, making the proper effort, would have a fair chance to secure this contract, which might lead to larger transactions in the future.

The consumption of American coal in Brazil has increased very considerably during the last two years, and the possibilities of this market are well worth attention.

The letter reads:

MR. CASTELLO BRANCO TO CONSUL-GENERAL SEEGER.

[Translation.]

DEAR SIR: The opportunity is more than favorable at this moment for starting a trade in American coal at Rio de Janeiro. With the desire of promoting such important interests between the United States and Brazil, I offer you some information as to the nature of this enterprise, hoping that there may result a proper understanding of the methods to be employed and an interest in the enterprise sufficient for its realization.

In view of the fact that the tender of bids for supplying coal to the Central Railroad of Brazil is very near at hand, and that the time for making tests of American coal, which has not yet been used on that railroad, is consequently limited, it would be well for one of the good mining companies to send a cargo of coal in conformity with the particulars that I inclose.

The company now supplying coal to the Central Railroad furnishes Cardiff coal at 35s. ($8.55) and American at 32s. ($7.78) a ton; as the former is dearer than the latter, and as it makes more on the Cardiff, it takes no interest in the introduction of the American product.

To overcome this difficulty, it is necessary to have a special American agency which shall have no interest in Cardiff coal.

It is well to note that the coal merchants of Cardiff, thoroughly cognizant of the conditions prevailing in the Rio de Janeiro market, grant to it the greatest possible favors, while American dealers, ignorant of conditions here, demand a guaranty which renders the development of the trade between the two countries impossible.

If the mine owners of Virginia wish to extend their business relations, they should, without loss of time, send a considerable quantity of coal of the best quality for the official tests on the Central Railroad of Brazil. They should also quote the lowest prices at which they can deliver the coal at the port of Rio de Janeiro, taking into consideration the fact that their sailing vessels or steamers will have a return cargo to the United States. They should send the funds necessary to enable the agency here to work for the interests of the business; and, finally, they should have absolute confidence that any sums which may become due them for coal supplied will be paid in full.

I shall be very glad if your efforts in an enterprise of mutual advantage to our respective countries result favorably.

PARTICULARS.

United States coal met with great opposition as soon as it appeared in the Rio de Janeiro market, because it threatened to disturb the Cardiff coal business.

It is well known that American coal is cheaper than Cardiff, and consequently there is great opposition on the part of the dealers in the latter, who have declared the American product to be of bad quality.

The American coal brought into Brazil is in the hands of importers who do not put it on the market in competition with Cardiff. No one is interested in making a propaganda for it or in trying to convince the consumer that it is as good as Cardiff.

Under these circumstances, if the American mine owners want to get a part of the coal business in Rio de Janeiro, they must decide to establish an agency in Rio with the means necessary for the development of the business, viz:

(1) They must establish a coal depot in Rio for furnishing factories according to their needs.

(2) They should have a suitable person, who understands the coal business in its minutest details, to place the product with railroads, factories, etc.

(3) They should have the funds necessary for expenses in Rio, which are: The payment of import duties, 2,500 reis* a ton, more or less; the cost of discharging, which varies from 1,500 to 2,000 reis a ton, more or less; rent of warehouse and kindred expenses. All these expenses are necessary, whether for a general trade in coal or for supplying the Government, while in the latter case there is a further requirement—the payment to the Central Railroad of Brazil of a guaranty of 5,000,000 reis, or, at the rate of 4,000 reis to the dollar, $1,250, on presentation of bids. On the acceptance of the bid, a deposit of 40,000,000 reis, or, at the rate of 4,000 reis to the dollar, $10,000, must be made as a guaranty that the contract will be fulfilled. The original guaranty (5,000,000 reis=$1,250) will be reckoned as a part of the deposit to be made in case the proposals are accepted, and the entire deposit is to be held during the time in which the coal is being supplied, and refunded at the expiration of that time.

The total supply for the Central Railroad is to be furnished at the rate of 12,000 tons a month, the bills for which are payable at the federal treasury within from sixty to ninety days from the time of their presentation to the administration of the Central Railroad.

All possible efforts should be made toward securing the contract for supplying the Central Railroad; for, once this supply has been accepted and the coal found to meet the expectations of the railroad administration, the American coal business may be said to have become established in Brazil, so strong a hold on public opinion has the approval of this railroad.

The great mine owners of the United States should consider that the expenses indicated would produce manifold results.

When negotiations shall have been set on foot on this basis, a regular American coal business will be established in Brazil, a result which will not be accomplished by proceeding as heretofore.

---

*About 55 cents, at to-day's exchange.

It is well to suggest that in the coal trade the practice of always quoting prices in dollars should be established—prices which are more or less regular and not subject to constant fluctuation. The agent in Rio de Janeiro should have stable prices, not subject to alterations between the arrivals of consecutive steamers, in order to operate with safety and save telegraphic expenses.

The Cardiff coal used by the Central Railroad of Brazil is of the following quality: It does not produce more than 5 per cent of ash and contains but nine-tenths of 1 per cent of sulphur, while its caloric power is not less than 8,100 calorics per gram, as measured by Thompson's calorimeter.

All the coal must be screened three times when loaded, in view of the fact that the Central Railroad will reject all coal dust, in accordance with the official statement which I will send as soon as it is published.

It would be well for one of the good mining companies to send a cargo of coal (as it is not convenient to receive a small quantity), in order that some 20 or 30 tons may be taken, at the mining company's expense, for tests on the Central Railroad, which are made in so thorough a manner that every attention should be paid to the quality of the coal; the remainder could be easily placed in the industrial shops in Rio without loss to the dealer.

The loss on this cargo, which, by reason of the sale of part of it, ought not to be great, will be compensated for, as I have suggested, by the increased facility with which other American coal may be subsequently introduced.

It will perhaps be asked why the Pocahontas Company, with an agent in Rio, has not supplied coal to the Central Railroad. I would reply that the misfortune of the Pocahontas people is in having as their representative a man who made a campaign against their coal in the Rio press in 1897.

The Pocahontas agent has a contract for 70,000 tons of coal with the Central Railroad for the present year, and he was permitted to carry out this contract by supplying 10,000 tons of American coal and 60,000 tons of Cardiff. As a matter of fact, he has not yet furnished one single kilogram of American coal to the road in question.

The consul-general sends a copy of the usual form of official advertisement for bids, which, in addition to the particulars already noted, has the following requirements:

The coal must be delivered in large lumps, not more than 5 per cent of small coal of the size of 30 cubic inches being admitted.

The means of insuring the execution of this clause will be determined by the administration as it may consider most convenient.

Should the quantity of small coal at each delivery prove to be greater than that agreed on, the coal will be screened on the contractor's account, and the quantity of pieces verified to be less than 30 cubic inches in size shall be reduced to the proportion agreed on.

Prices will be considered to refer to the English ton of 1,015 kilograms (2,238 pounds) for all coal delivered, under either condition, exclusive of import duties; the dispatch of all coal for the use of the railway being effected by employees of the railway itself.

All payments will be made at the treasury of the railway in national money (currency) and within the period of eight days after delivery of each cargo, and will be calculated at the rate of exchange of the day preceding the payment, the price being stipulated in pounds sterling.

In a report dated August 23, Consul-General Seeger noted that the Royal Mail Steamship *Nile*, bound homeward to Southampton from Buenos Ayres, had bought at Rio about 600 tons of Pocahontas coal. This, Mr. Seeger was informed, was the first time American coal had been taken for consumption by a Royal Mail steamer, a fact which assumed particular significance from the circumstance that the Rio agents of the Royal Mail Company were also the agents for Cardiff coal.

NOTES.

Scarcity of Cereals in Mexico.—The Department has received a telegram from Consul-General Barlow, of Mexico City, dated October 2, 1901, to the effect that a decree has been issued suspending import duties and all other taxes on corn (maize) from October 1 to December 31. The duty on wheat has been reduced to 1 cent Mexican (about one-half a cent gold) per gross kilogram (2.2046 pounds). A bill has been introduced in the Chamber of Deputies authorizing the President to buy and import foreign corn into the Republic until March 31 next for general distribution at cost price.*

Minister Clayton, of Mexico, under date of October 25, 1901, sends translation (printed) of the text of the decree, as follows:

> Porfirio Diaz, Constitutional President of the United Mexican States, to the inhabitants thereof, know ye:
>
> That desiring to relieve the situation of the needy classes who are suffering the consequences of the high price of corn (maize) and wheat in the national markets, and making use of the power granted to the Executive by article 2 of the budget law of May 27, I have seen fit to decree the following:
>
> The corn that may be introduced through the custom-houses of the Republic is excepted from the payment of import duties, additional duties, and from the 7 per cent internal-revenue stamp tax for a period of three months commencing on this date and terminating on December 31 next.
>
> ARTICLE 2. Wheat imported during the same period of time will be subject to import duties at the rate of 1 cent per gross kilogram (2.2046 pounds).
>
> ARTICLE 3. From January 1, 1902, foreign corn and wheat will again be subject to the rates provided by sections 143 and 146 of the general custom-house ordinances.
>
> Therefore, I order that this decree be printed, published, circulated, and duly fulfilled.
>
> Done in the National Palace of Mexico on the 1st day of October, 1901.
>
> PORFIRIO DIAZ.

Harbor Concession in Turkey.—Under date of September 25, 1901, Consul-General Hughes, of Coburg, writes in regard to the harbor at Haydar Pascha, permission to build which was granted to the Anatoli Railway by the Sultan of Turkey. According to the German press, Haydar Pascha is the principal station of the road, which at present has its eastern end at Angora and its southern terminus at Konia. The concession gives its holders, apart from the privileges of building and operating the harbor proper, the right to construct extensive docks, coal and grain storage houses, elevators, warehouses for goods in bond, etc. The breakwater is now more than half completed and the harbor works are well under way. The machinery for loading, unloading, etc., is to be ordered this year or in the early part of next, and several large German machine houses are already figuring on these contracts. The consul thinks it would be well for American concerns to look into this matter. The harbor is expected to be opened in the autumn of 1902, so there is no time to waste. He adds:

---

* Another telegram from Consul-General Barlow, dated October 3, says that the bill as passed authorizes importation until the price of native corn declines to $5 Mexican ($2.32 at present valuation) per hectoliter (2.838 bushels).

The railroad company's principal object in getting this harbor concession and in instituting these works has been to provide a sheltered landing place for passengers and freight. Up to this time it has been impossible, during the prevalence of a south wind, for shipping to either load or discharge cargoes. As soon as the works are finished, they will be turned over to a joint-stock company under regulations already prepared by the Turkish Government, the Anatoli Railroad Company holding the controlling interest and being responsible for the proper working of the harbor.

United States Trade in Greece.—Consul McGinley writes from Athens, September 11, 1901, in regard to the difficulty experienced in furnishing names of Greek importers of certain lines of goods. He receives numerous letters from the United States asking for this information, and some of them are followed by other communications, saying that the importers were not financially sound, the result having been loss to American export houses. There is no commercial agency in Athens that furnishes data on this subject, and the consul thinks that the only means by which our trade can be extended in Greece is by sending trusty men to attend to it. The McCormick Harvester Company, for instance, has done so and is reaping large profits. British and German exporters have their representatives on the ground, and, although giving long terms of credit, seldom lose through dishonest debtors, and their trade steadily increases.

Demand for Electric Plant in Greece.—Consul McGinley reports from Athens, September 12, 1901, that the mayor of Karpenesion, a village in the province of Evrytania, wishes to have that place lighted by electricity, and has requested the consulate to publish the fact in the United States, hoping to induce some American company to sell him a suitable plant. There is a stream near the village that can be utilized to furnish the necessary power for the plant.

There are 400 houses in the village, and the mayor estimates that about that number of incandescent lights will be required. He does not mention the number of arc lights required. Karpenesion is the village which the heroic Greek chieftain, Marco Bozzaris, was defending when, in 1823, he fell in a midnight sortie against the Turks, an event made famous by Fitz Greene Halleck's stirring poem.

Hats in Switzerland.—In reply to inquiries from a New York firm (to which a copy of this report has been sent), Consul Morgan writes from Aarau, September 11, 1901:

Hat dealers of this country buy principally from the English and Italian market. England furnishes stiff and Italy soft hats. It is difficult to say if American hats could find a market in this country, as their prices and qualities are not known here. The competition is very keen; agents canvass the country thoroughly. My personal opinion is that the chances for American hats are good, if the prices are not too high. The taste in this country, as well as in Germany, is influenced at present by our fashions. Only a few days ago, I was told by a gentlemen's outfitter that "everything American" is "la vogue." An agent who speaks the languages of the country—if possible an American—should be sent, to show the latest samples to dealers, complying with the customs of this country in the payment of bills, viz, three months net or 2 per cent discount for prompt cash. The duty is 120 francs ($23.16) per 100 kilograms (220.46 pounds), cases and packing included, for trimmed felt hats, and 200 francs per 100 kilograms of silk and straw hats.

German Commerce in Works of Art.—Consul Winter writes from Annaberg, September 10, 1901:

Germany imported, in 1900, $2,760,800 worth of paintings and drawings, and exported $1,800,000 worth. The chief countries with which Germany carries on commerce in paintings are Belgium, France, Great Britain, Italy, Holland, Austria-Hungary, Russia, Switzerland, and the United States. In 1900, $618,000 worth of marble statuary was imported, 65 per cent coming from Italy, roughly outlined, to be polished in Germany. Many German sculptors have their residence in Rome, so that a great part of imported statuary is really of German production. Austria furnishes Germany with more paintings than any other country. Nearly 50 per cent comes from that country, the great majority consisting of paintings for church purposes. Germany also imports a number of paintings each year from France. The export of German paintings in 1900 shows an increase over previous years, which is to be attributed to the Paris exposition. There is a tendency on the part of the German people generally to purchase more paintings each year.

German Port of Emden.—Mr. Jackson, secretary of the embassy at Berlin, under date of September 25, 1901, reports that the new port of Emden has been opened. The Reichsanzeiger says that this port can accommodate the largest seagoing ships. The inner harbor has everywhere a depth of more than 6 meters (19.6 feet), while the depth of the outer harbor at mean high water is more than 11 meters (36 feet), so that it can accommodate ships drawing 8.2 meters (26.8 feet) at all times. The harbor will be kept open in winter, and the channel of the Ems from Emden to the sea is to be made 10 meters (32.8 feet) deep. Quays have been built in the outer harbor; electric cranes, coaling chutes, etc., have been provided. The outer harbor is a free harbor, and provision has been made for the loading and unloading of goods and for storage, with comparatively little supervision by the customs authorities.

Brussels Sugar Congress.—Consul Covert writes from Lyons, September 23, 1901:

The sugar interests in France are giving a great deal of attention to the international sugar congress to be held in Brussels this fall. It is remarked that heretofore the fixing of bounties on the production of sugar was of importance to France, Germany, and Austria only; but as the output has been immeasurably increased within the last few years, other countries have become immediately interested in the subject. The output of sugar in France this year will probably be an increase over that of former years. The Economiste Français of September 14 reports the beet crop of European countries as very large, and quotes an immense stock on hand in England, "which, unfortunately," it adds, "has become almost our only customer." The same paper notes that the importations into England are very limited.

Navigation Congress at Düsseldorf.—Consul-General Guenther reports from Frankfort, August 28, 1901:

The next international navigation congress will be held at Düsseldorf, Germany, June 29 to July 6, 1902. There will be two sections, one for inland, the other for ocean navigation. In the former the following will be discussed: Hoisting machinery; coal transportation on canals; dams; mechanical starting of vessels; the utilization of water power of locks for generating electricity. In the section for ocean transportation, discussion will touch: The use of lighter ships on the seas; the construction and maintenance of dry and repair docks; the construction and cost of dredging machinery.

British Demand for Spectacle Frames.—Consul Marshal Halstead writes from Birmingham, October 11, 1901, that he has received the following from a merchant:

> I am a manufacturer of spectacle frames and engage about ten men. I could get, I think, sufficient work for twenty to thirty men, and before enlarging my business I wish to get quotations from American manufacturers of the separate parts of spectacle and eyeglass (folders, etc.) frames, especially the small stampings used for the nose bridge and spring joints. Will you please put me in possession of the names and addresses of the American firms who make such stampings and parts of spectacle frames?

The consul adds:

I will be glad to place any American manufacturer of spectacle parts and frames into communication with the person who makes this inquiry, and will turn over to him any quotations sent me; but it should be always understood that, without reflecting on either party, a consul of the United States assumes no responsibility when putting firms into business communication, and the usual inquiries should be made.

American Granite in England.—Consul Lathrop sends the following from Bristol:

English papers have been commenting on importations of American granite, and it is alleged that one or two cargoes have been received in this country. I have been unable to obtain any definite information, but there should be a market for considerable quantities of granite in England, and I have had two or three inquiries on the matter from important contractors. If intending exporters will communicate with me, I shall take pleasure in putting them in touch with men who are desirous of obtaining a granite cheaper than that now locally supplied.

The Metric System in Foreign Trade.—Consul Hill reports from Amsterdam, September 7, 1901:

The necessity for United States manufacturers to adopt the metric system in foreign trade becomes daily more imperative. A firm in Holland received this week a cable offer from New York for 2,000 barrels of potatoes. As this was a new business, the question at once arose how many pounds were there in a barrel of potatoes—American pounds, too, as the Dutch pound differs from ours. A whole day was lost before the answer could be wired. Had the offer been made in kilograms, every business man in the commercial world from Vladivostock to Mauritius would have understood it instantly.

Potato Disease in France.—Consul Covert reports from Lyons, August 30, 1901, that the potatoes in certain Departments have been attacked by a disease that is causing alarm, and appropriations have been voted to study it. The leaves of the potato plant dry up, the stem becomes thin and covered with yellowish spots, and dies. The veins fill with a gummy substance and are infected by bacteria. The disease first attacks the roots and then invades all parts of the plant.. The bacteria is said to be identical with that which once attacked tomatoes and egg plants in the United States and was denominated *Bacillus solanearum*. The only advice given to farmers on this subject, which comes rather late, is not to plant potatoes.

Silk Crop of Spain.—Consul Ridgely reports from Malaga, August 28, 1901:

The silk crop in Murcia is said to have yielded this year some 600,000 kilograms (1,322,760 pounds), or about the same as last year. This at 3.50 pesetas* per kilogram would mean about 2,000,000 pesetas ($270,000) for the whole crop of Murcia, which is in effect the crop of Spain, as virtually no silk is produced in the other provinces. It is estimated that each ounce of seed produced 4 arrobas (100 pounds) of raw silk, and it is believed that this yield would be increased to 5 arrobas (125 pounds) per ounce of seed, if the mulberry trees were more carefully cultivated and the silkworms treated according to modern methods. It is claimed that the silk industry is much overtaxed by the Government, and some of the responsible industrial journals are predicting its complete ruin unless the taxes are reduced.

Spanish Prizes for Gratings and Filters.—Under date of September 27, 1901, Deputy Consul-General Hanauer, of Frankfort, reports:

The municipal authorities of Madrid, Spain, have offered a prize of 3,000 pesetas ($450) for the best model of a grating for draining openings in street pavements; and another of the same amount for a filter for water pipes, which must have a capacity for filtering 800 liters (211 gallons) of water per hour. Models and descriptions must be submitted within two months. American manufacturers may find it profitable to submit models and bids for supplying these articles.

---

*This has reference to the silver peseta, which at present has a value of about 13.5 American cents.

Sunflower-Seed Oil.—Consul Ravndal reports from Beirut, September 13, 1901:

Olive oil has many uses, but more substitutes, and few salads are compounded without the aid of one of them. Cotton-seed oil is a favorite substitute, but, according to an Egyptian newspaper, this is soon to find a sturdy rival in the form of the seed of the sunflower. Experiments made by German chemists have convinced them, it seems, of the availability of this cheap raw material, and it may shortly become a valuable article of commerce. It is said to be convertible to many uses, and, besides having possibilities as a lamp oil, may be used for dyeing purposes, and will be of service in soap making.

Russian Trade in 1901.—Consul-General Hughes sends the following from Coburg, September 5, 1901:

Statistics of the exports and imports of Russia for the first five months of the current year, just published, show that Russia imported from the United States over 16,000,000 rubles ($8,240,000) more than she exported thither. The balance is on the same side in the case of Germany. The imports of iron, steel, hardware, and machinery were 30 per cent below those of last year. Russia's new markets in the Far East have caused a great increase in her exports thither, principally of calicoes and other textile goods, which have advanced nearly 50 per cent for these months in the past two years. It is probable the increase will be more than sustained, as the textile goods at the Nizhni fair this year have almost all been sold, largely to Siberian buyers.

Chinese vs. Japanese Cotton Yarn.—Consul Miller sends from Niuchwang, August 19, 1901, a clipping from the Japan Weekly Times, as follows:

JAPANESE COTTON YARN'S RIVAL.

While our yarn is quoted at a considerable price in the Chinese market, owing to its excellent quality, a powerful rival in the form of the Shanghai yarn has begun its career. At present, the only Chinese market where Japanese yarn is reigning

> supreme is that of Hankau, while its rival is steadily gaining ground in various places in North China, in Niuchwang especially. At Chinkiang, the Indian yarn has been much in demand, but of late it has, in a manner, been replaced by the Chinese yarn. It is said that the Shanghai yarn is not only pretty good in quality, but it sells at a comparatively low price, so that when sufficient improvements are made, it may command the cotton-yarn market in China in the not distant future. In short, the Shanghai yarn is now beginning to be the "rage" all over the Celestial Empire, and the result will be most painfully felt by Japan.

Inasmuch, says the consul, as the United States supplies a large amount of raw cotton for Japan and does not export it to China, this change in the markets for Japanese cotton yarn is of considerable interest to our cotton exporters.

German Railroads in China.—Deputy Consul-General Hanauer writes from Frankfort, September 11, 1901:

The Shantung Railroad Company, whose head office is in Berlin, has been informed of the opening of another long section of its road, whereby a line of 100 kilometers (62.137 miles) has been completed. The work is being energetically pushed, and the directors believe that by May of next year the road will be in operation up to Weihsien, where the great land routes of the northern part of Shantung province converge. Ten miles south of Weihsien the road runs through one of the main coal fields, and by the middle of next year coal from there will reach Tsintau, which will add to the importance of that port. The surveys on the line Weihsien-Tsinganfu are finished for 40 kilometers (about 25 miles). The construction of these German railroads is the precursor of extension of German influence in this rich province.

Arabian Wool Trade.—Consul-General Hughes reports from Coburg, September 24, 1901, that according to the German press, the wool from the neighborhood of Bagdad is considered the best in Arabia; the next is from the region around Mosul, and then from Kurdistan. Wool is the most important export from Mesopotamia, and its chief point of shipment is Bagdad. Bassorah exported, in 1899, 37,650 bales of wool, of a value of 6,024,000 francs ($1,162,632), as against 38,000 bales in 1898. All of this went to Great Britain, France, and the United States. Not one modern factory for woolen goods exists in Arabia, in spite of its large quantities of the raw material; the only use of the wool is the making of abas (a large outer garment) by hand.

Cable Service to the Canary Islands.—Consul Berliner reports from Teneriffe, October 4, 1901:

For some time, the direct cable between Teneriffe and Europe has been broken; also the cables connecting the different islands. All the islands are now cut off from the outside world, except Teneriffe, which has cable connection with Bathurst, Africa.

The charges from Teneriffe to New York, formerly 2s. (49 cents) per word, are via Bathurst 6s. ($1.46) per word.

Bremen-Cuba Steamship Line.—Consul Monaghan, of Chemnitz, September 17, 1901, says:

According to report, the North German Lloyd has decided to open a line from Bremen to Cuba, vessels sailing regularly every four weeks and touching at Habana, Cienfuegos, Manzanillo, and Santiago de Cuba. Vessels begin sailing for Cuban ports about the middle of November of this year. From February, 1902, it is the intention of the line to have a bimonthly service. This is another example of Germany's endeavor to secure not only markets in all parts of the world, but efficient and regular connections with the same.

Opening for Chemical Fire Engines in Haiti.—Minister Powell writes from Port au Prince, September 11, 1901, to call the attention of United States manufacturers of chemical fire engines to the market in Haiti. He says:

In this capital, as well as in all of the principal cities of the Republic, the houses are chiefly constructed of wood, which in this climate soon becomes like tinder, needing but a match to start a large and destructive conflagration that sometimes sweeps half the city before the flames are mastered. The cities have some good engines, but on account of the limited supply of water they are practically useless. The loss from fire is so great—ranging from $50,000 to $100,000—that insurance companies have refused to accept risks anywhere in the Republic. I will be glad to aid our manufacturers in any way, by calling the attention of the Government to the benefits to be derived from chemical fire engines.

Tariff in Haiti.*—The Department has received from Minister Powell, of Port au Prince, under date of September 24, 1901, notice of the passage of a law reducing the duty on certain products, notably coffee and logwood, when exported. Coffee will hereafter pay $3 gold per 100 pounds, and logwood $1.50 per 1,000 pounds. The surtax of 25 per cent on imports, now paid in paper, is to be hereafter paid in United States gold. The Minister of Finance is restricted to a loan of $500,000, instead of $1,000,000, as in the original bill, for the purpose of retiring a certain amount of the present paper currency.

---

*A report covering the same information has been received from Vice-Consul-General Terres, of Port au Prince.

Nicaraguan-United States Treaties Terminated.—The Department has received from Minister Merry, of Managua, under date of September 27, 1901, translation of a note from the Nicaraguan Minister for Foreign Affairs, giving notice that in accordance with Article XX of the treaty of amity, commerce, and navigation, and Article VII of the convention of extradition concluded between Nicaragua and the United States, the former treaty will expire at the close of twelve months and the second six months from the date of receipt of this notice. This denunciation, it is stated, in no wise affects the friendly relations existing between the two countries, and the Nicaraguan Government desires the conclusion of new treaties.

Drainage Works and Pavements in Merida, Mexico.—Consul Thompson writes from Progreso, October 4, 1901:

I have information of an authentic nature that within a year the city of Merida, capital of the State of Yucatan, will construct drainage works and pavements. I report the matter in order that our firms interested in this line of trade may have ample time to learn the special conditions prevailing here, and be fully prepared to enter the competition. Any questions will be answered to the best of my ability. Meanwhile, I will prepare a report upon the city of Merida, with all data I can secure in regard to the proposed works.

Hints for Exporters to Peru.—Vice-Consul-General Murphy, of Frankfort, October 14, 1901, sends translation from the Berlin South American Outlook, as follows:

> The period allowed for filing bids in connection with public works is usually very short in Peru; consequently, foreign firms wishing to participate in such business should have on the spot trusted agents, who are thoroughly posted in regard to prices and conditions of sale, and are duly empowered to act in their names.
>
> The customary terms of payment are ninety days sight or six months after date of consignment.
>
> It is necessary to scatter catalogues in large quantities.

Promptness in filling orders is very essential in Peru, and therefore it is advisable to mark letters "via New York," for about eight days can be saved in this way.

In selecting an agent to take charge of a stock of wares or to whom it is desired to give the exclusive right of selling a product, it is important to first ascertain what other firms such person already represents.

Commercial Conditions in Bolivia.—Consul Winter, of Annaberg, October 6, 1901, quotes from Le Nouveau Monde the following, in regard to commercial conditions in Bolivia:

The disturbances which greatly hindered the commercial development of Bolivia have ceased, and business conditions have returned to their normal state more quickly than was expected. The situation at present is good, and will undoubtedly remain so as long as remunerative prices are obtained for copper and tin. A fall in the price of these metals would have a disastrous effect upon the general financial situation. It is advisable for those who have business relations with Bolivia to look after the financial standing of their customers at least once each year.

In sending goods to Bolivia, one must take into consideration the difficulties of transportation in that country. Everything must be packed with a view to being placed on the backs of donkeys, especially if destined for the interior.

Fraudulent Mining Companies in the Klondike.—Consul McCook, of Dawson, under date of August 13, 1901, warns against investing in certain Klondike mining companies floated in the United States. He says:

These companies issue prospectuses giving as reference, without authority, prominent Government officials and others in Dawson. The statements made are in most instances flagrantly false, and some companies have been known to actually pay unearned dividends in order to sell their stock. For instance, upon examination in court, the manager of one of these companies recently stated under oath that the dividends declared were paid out of the capital. Invariably, the claims are of very little value.

Price Lists for Siberia.—Consul-General Hughes, of Coburg, under date of October 10, 1901, says:

The trade bureau of the Siberian Railroad publishes a notice that it wishes to have price lists, illustrated catalogues, etc., of all kinds of goods which are necessary and useful in Siberia. The chief of the bureau requests that price lists, sample cards, and catalogues be addressed to Monsieur N. Selikhoff, Service Commercial du Chemin de fer Grand Siberia, Tomsk (Russia).

Moscow Trade with the United States: Correction.—Vice-Consul Smith writes from Moscow to correct a statement appearing in CONSULAR REPORTS No. 252 (September, 1901), page 149. In this report, Deputy Consul-General Hanauer, of Frankfort, quotes from German press correspondence from Russia that Moscow importers of American agricultural apparatus asked the consul at that city why the trade in these articles had decreased, and received the answer that it was due to the enhanced Russian duty. Mr. Smith wishes to say that he has received no such inquiries. He adds that Russia is a large importer of American agricultural implements, and that our machinery is preferred to all other.

Passenger Service between Odessa and Germany.—Consul-General Hughes sends the following from Coburg, October 5, 1901:

On October 1, 1901, the Russian Southwest Railroad opened a direct passenger service between Odessa and the German cities of Breslau, Berlin, Leipzig, Bremen, and Hamburg. Part of the route will be conducted via Austrian railroads. Traveling either way, cars must be changed at Wolotschisk, as the Russian railways have a larger gauge than other European roads.

Typesetting Machines in Germany.—The consul at Munich, Mr. Worman, writes from Westport, N. Y., October 24, 1901, that, according to the tax list recently published, 275 German printing establishments distributed over 147 places are using 532 typesetting machines, employing 816 persons. The weekly wages run between 18 and 60 marks ($4.28 and $14.28). The results achieved vary in the different machines between 2,500 and 9,000 letters. There are two systems in use, the linotype and the typograph.

Draining the Zuider Zee.—Under date of September 23, 1901, Consul Hill, of Amsterdam, says:

Referring to my late report* on the draining of the Zuider Zee, I have to state that the project has been withdrawn from the States-General by the new ministry, thus being disposed of probably for a long period. The state of the Dutch budget renders such an undertaking at this time unadvisable; besides, the fall in the price of land has diminished the demand for new agricultural holdings.

---

*See ADVANCE SHEETS No. 1068 (June 21, 1901); CONSULAR REPORTS No. 252 (September, 1901).

New Brussels-London Telephone.—The following has been received from Consul Roosevelt, dated Brussels, October 10, 1901:

In a few days, a new submarine telephonic cable will be laid, connecting Brussels with London. The point of immersion on this side will be near La Panne, and on the English coast the line will emerge at Ramsgate. The circuit will be so disposed as to serve large commercial cities of Belgium and England, such as Antwerp, Liege, Birmingham, Manchester, and Liverpool.

Coal Discoveries in Belgium.—Consul-General Hughes writes from Coburg, September 4, 1901:

Large coal veins, running from the German Rhine-Westphalian coal districts toward Limburg, in Belgium, are reported to have been discovered. If the coal is as good in quality as that of the Rhenish-Westphalian district, it may revolutionize the European coal trade.

American Coal for Germany.—Consul Kehl writes from Stettin, September 29, 1901, that the James Stevensen Aktien Gesellschaft, of Stettin, is interested in American coals, including anthracite, and has sent a representative to the United States with a view of opening up business relations. The Stevensen Company, he adds, is one of the largest fuel dealers in that section of Germany, importing nearly 250,000 tons per year from Great Britain.

Italian Demand for Cellulose.—The Bureau of Foreign Commerce has received a letter from J. P. Spanier, 160 Corso Umberto, Rome, dated October 2, 1901, stating that he wishes manufacturers of cellulose (wood pulp) in the United States informed that he is desirous of receiving samples by mail and prices c. i. f. Genoa. If quality and price are suitable, he can take several thousands of tons annually.

New Greek Railway.—Under date of September 4, 1901, Consul-General Hughes, of Coburg, says:

According to German reports, the Greek Government has just granted a concession to the British Eastern Railway Company for building a new railway between the harbor of Piræus and the Greek-Turkish frontier. This will connect all the Greek railroads with the so-called International Orient Roads, making communication with Greece less complicated than at present.

Glass Works in Spain.—Consul-General Hughes reports from Coburg, October 10, 1901:

The German press says that at Gijon, on the north coast of Spain, a company has been started, with a capital of 6,000,000 pesetas ($1,158,000), for the purpose of establishing glass works and flour mills. Among the goods required are glass-working machinery, fireproof clay, and calcined firestone. Americans might bid for these supplies.

Ceramo-Crystal for Pavements.—The Department has received from Consul Covert, of Lyons, a specimen of the ceramo-crystal used as pavement in that city.* It has been filed in the Bureau of Foreign Commerce, where it may be examined by parties interested.

Wharf at Papeete, Society Islands.—Under date of September 24, 1901, Consul Doty, of Tahiti, says:

The Oceanic Steamship Company, of San Francisco, has entered into a contract with the local government for the construction of a wharf at Papeete. The government is to pay, upon completion of the wharf, the sum of 22,000 francs ($4,246). The Oceanic Steamship Company is to have the exclusive right to the wharf at all times, free of charge, for four years.

Consular Reports Transmitted to Other Departments.—The following reports from consular officers (originals or copies) have been transmitted since the date of the last report to other Departments for publication or for other action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
E. Schneegans, Saigon	Aug. 15, 1901	Rice-market report	Department of Agriculture
Do	Aug. 29, 1901	do	Do.
Do	Sept. 12, 1901	do	Do.
M. W. Twitchell, Kingston	Sept. 30, 1901	Agricultural conditions	Do.
O. J. D. Hughes, Coburg	Sept. 23, 1901	Adulteration of table oils	Do.
Do	Sept. 27, 1901	Oil-of-roses crop	Do.
Do	Oct. 5, 1901	Thuringian crops	Do.
F. D. Hill, Amsterdam	Oct. 8, 1901	Agricultural conditions	Do.
Do	Oct. 12, 1901	Crops and live stock in Great Britain.	Do.
R. Guenther, Frankfort	Oct. 7, 1901	Remedy for foot and mouth disease.	Do.
T. E. Heenan, Odessa	Sept. 30, 1901	Sugar	Treasury Department.
M. Halstead, Birmingham	Oct. 17, 1901	London School of Tropical Medicine.	Marine-Hospital Service.

---

*See Advance Sheets No. 354; Consular Reports No. 223.

FOREIGN REPORTS AND PUBLICATIONS.

Rubber in Africa and South America.—The following extracts are taken from an article by Emile Bonnechaux, explorer, published in Le Vieux Corsaire, St. Malo, France, August 16, 1901:

With the extending use of rubber and its thousand and one applications, a serious question presents itself. Will the forests producing rubber and bind weed become exhausted? Several trips to Madagascar and two voyages to Brazil for the purpose of exploring the forests may permit me to express an opinion on this subject. I believe that certain species will disappear in Africa, Madagascar, and Brazil—in fact, in all the regions producing rubber now exploited.

Landolphias will disappear both in Madagascar and on the continent of Africa, by reason of the barbarous methods of extraction employed by the natives, which consist in tapping the bind weed close to the place where it issues from the ground, dividing it afterwards into sections about 20 inches in length, from which the milk is drained by placing the sections upright in a gutter of split bamboo supported above the receiving pail by two wooden forks. The *Euphortiacée intisy* will also be exterminated in the southern part of Madagascar. The *intisy* yields a milky juice, as rich as that furnished by the *Hévea brasiliensis*, but it is impossible to obtain it pure, as the natives allow the juice to flow to the ground, where it at once makes an amalgam elastic only in name. Besides, in their greed to obtain the maximum yield, the natives do not hesitate to tap even the tubercles of the roots, thus killing in one moment what nature has taken a century to produce. Other varieties will also disappear. But there is one, not indigenous to either Africa or Madagascar, which will not. It lives in the forests which are included between 8° north latitude and 8° south latitude. It is a native of Brazil, Peru, Bolivia, Ecuador, Colombia, and Venezuela. The specie is called Seringa in the Brazilian tongue. The botanical name is *Hévea*, one of the large family of the *Euphortiacées*, which comprises a dozen varieties. The product of these trees is known on the markets of Europe by the name of Para fin, from the town of Para, near the mouth of the Amazon, through which all the gum passes. The denomination Para fin is, however, incorrect. The State of Para produces some rubber, but the greater part comes from the district of Amazonas, from Peru, etc. In these countries, the *Hévea* has fortunately been protected. The extractors have every incentive to preserve the trees from injury, in order to insure an annual yield, which I estimate at from $290 to $347 for one hundred days of actual labor. Some affirm that the gatherers average from $8 to $10 per day. This estimate is exaggerated. The exploitation of the *Héveas* and other rubber trees of South America supports some 100,000 people. One can judge from this of the importance of this industry. The rubber tree is carefully treated here. Already the two States of Brazil, Para and Amazonas, have regulations for the distribution of lands. Both have taken measures to protect their natural resources, in order to preserve the immense revenues obtained from them. Manaos, the capital of the State of Amazonas, a town of 60,000 inhabitants, alone receives 48,000,000 francs ($9,264,000) revenue from the export duty. I can affirm with certainty that the States of South America included within these latitudes have inexhaustible riches, if they continue to protect them. Brazil and Peru in particular would alone be able to satisfy the consumption of the entire world in rubber.

The time is not come for the exhaustion of these immense treasures. Although we penetrate now to the very sources of the large rivers, only the great arteries easily accessible have been explored; the small affluents, which, in my opinion, are even richer in rubber, are yet unknown. Yet it must be acknowledged that Brazil is less known in France to-day than Central Africa. The whole world has had its eyes turned toward the Dark Continent. The boundless forests on the other side of the Atlantic contain forests accessible to anyone desiring to go there. Marseilles is the port plainly indicated to become the headquarters of this trade and an important market for rubber. Why should we not go to Brazil, to Peru, and bring gums of the first quality, so necessary for our new industry—motocycles and automobiles? The English and the Germans do this and are making fortunes. I know of one German house in Manaos which has realized from commissions alone more than $20,000 profit. There is also an opening for a French line of navigation. One English house—Singlehurst Broklurst, of Liverpool—had, twenty-five years ago, a few sailing vessels coasting along the eastern shore of South America, which touched at Para. To-day, under the name of the Red Cross Line, this house has made a fortune. Within the year, the Germans of Hamburg have successfully established a line touching at Havre; the Italians have inaugurated a line from Genoa, touching at Marseilles. The French should learn the lesson.

Plantations in German East Africa.—The following is taken from a British consular report, republished in the Board of Trade Journal, of London:

Tobacco.—The experimental plantation at Mohorro, after having to contend with exceptionally adverse circumstances, has been abandoned, and tobacco has now been planted at Usimbi, 15 miles distant, on the Rufiji River. The first crop promised well, 5 tons being gathered, but it was found that the leaves would not burn. A second trial is at present being made, and it is hoped that a new kind of manure which has been used will counteract the salty nature of the soil.

Teak.—A few hundred teak trees have been planted at Usimbi.

Sugar cane.—The Government sugar-cane plantation at Msomeni, situated about 10 miles from Mohorro, has suffered from drought, and it is proposed to irrigate the land. The native sugar-cane plantations at Mohorro seem to have done well. An Arab has imported a press from Hamburg, by which means the juice is easily extracted.

Fiber.—The Government plantation at Kurasini was sold to a private company in April last for $24,333. Nearly 600 acres have been planted with Mauritius hemp, and a field railway has been constructed. At the present time some 20,000 leaves, producing about 750 pounds of dry fiber, are cut and cleaned daily. The fiber goes through the process known as breaking and scutching, the fleshy leaves being cracked and broken up by means of a simple rolling machine. After the bruised leaves have been left in soapy water for one night, they are well rinsed in fresh water and then placed in the sun. When dry, as much as possible of the broken flesh is shaken out, after which the fiber is beaten by rotating wooden paddles, by which means the remainder is removed. It is then pressed and formed into bales weighing 2½ cwts. Three thousand two hundred and fifty acres have been planted with hemp in the hinterland of Tanga and Pangani and in the highlands of Usambara. There are at present over 800,000 Mauritius hemp and 750,000 sisal hemp plants. Compared with other products, the cultivation of fiber is very simple and inexpensive. The only fear is that owing to overproduction the price will fall considerably and the article will become a drug in the market. The first sisal plants were introduced by the German East Africa Company in 1891, 46 being brought from Yucatan and planted in the Kikogwe estate. From the original 46 plants, over 700,000 have been obtained in nine years. At Kikogwe alone there are 640,000, covering an area of 1,000 acres, while there are 65,000 on the German East Africa Company's other estates. The sisal hemp at Kikogwe only lives for five or six years, and is then allowed to go to seed. A Rhea fiber extractor is shortly to be imported.

Vanilla.—There are three vanilla plantations near Bagamogo—two belonging to a private company, the third to the Roman Catholic Mission. In the two former are 30,000 vines, each of which bears on an average 20 pods annually. The plantations are irrigated, the water being conducted a distance of about 2 miles in pipes. The flowers are fertilized artificially, and the vines are not allowed to grow more than 6 or 7 feet in height. The pods are cured by the wet treatment and are dried in an oven, a temperature of 120° F. being maintained. Some are also sun dried, being wrapped up in woolen cloth.

Coffee.—There are over 5,000,000 coffee shrubs of the Mocha variety, one-fourth of which are now bearing. The plantations are situated at an elevation of from 3,500 to 6,000 feet above the sea level. The soil of Usambara appears to be particularly suited to the cultivation of coffee, and the plants come into bearing at two years of age.

On several of the estates, the berries are pulped by machinery. Fermenting vats and drying houses have also been built. Each tree is said to bear on an average half a pound of parchment coffee per annum. The German East Africa Company is following the example of the Guatemala coffee planters, and a mixture of bone meal, sawdust, rotten coffee husks, and lime has been found a good substitute for animal manure, which is wanting. About 500,000 Liberian coffee shrubs have been planted.

Cocoanuts.—There are three cocoanut plantations, in which are 300,000 palms. During the drought of 1898, hundreds of the young palms died. Much trouble is caused by the ravages of baboons in the nurseries, and by the unicorn beetle.

Miscellaneous.—The cultivation of cardamoms has been taken up by two or three companies. Cinnamon is found in many of the estates. Tea grows well. The fruit of sesamum is much used in the manufacture of cheap salad oil.

Railways in German East Africa.—The following account of railways, working and projected, is taken from the London Board of Trade Journal:

The German Government bought the Usambara Railway from the German East Africa Company in March, 1899, and the sum of $561,837 was voted for the extension of the line from Muhesa to Karagwe. Fresh rolling stock having arrived from Germany, a daily "up" and "down" train has been running between Tanga and Muhesa since the commencement of 1900. The survey from Muhesa to Karagwe has been completed, and the earthworks on one-half of this stretch were finished September 1, 1900. The number of natives employed is over 2,000. Much of the work has been handed over to contractors, of whom there are thirteen. The 54 miles of line from Tanga to Karagwe will probably be opened for passengers and traffic July 1, 1901. The survey for the railway will then be carried on to Mombo, some 28 miles beyond Karagwe. In 1899, the sum of $24,333, which was asked for the completion of the survey for the proposed Central Railway from

Dar-es-Salaam to Mrogoro, was refused by the Reichstag. Up to the present, only the first 30 miles to Kola have been definitely surveyed. Much has been written about the proposed Nyassa Railway, but no commencement has as yet been made. The spot chosen as a starting point is situated on a creek of the Mavuji River, either immediately opposite Kilwa Kisiwani, on the mainland, or at a small village called Orero. With reference to the Mrogoro and Karagwe railways, it is stated that the sum of $377,154 demanded as a first installment for the continuation of the Usambara Railway from Karagwe to Mombo has also been rejected by the budget commission, but the remaining sum of $231,159, being the last installment for the completion of the line as far as Karagwe, has been voted. The line costs $17,519 per kilometer (0.62137 mile). The sum of $486,650, asked for the construction of the section from Dar-es-Salaam to Mrogoro of the projected East African Central Railway, which will join the Cape Cairo Railway at Tabora, has been rejected by the budget commission, and therefore falls out of the present estimates, but the negotiations carried on by the Government for the formation of a syndicate have been brought to a successful conclusion, on the basis of a State guaranty of interest up to 3 per cent of the capital.

Improvements in Tunis.—An article in La Quinzaine Coloniale, of Paris, says:

Bizerta is one of the points of Tunis which has undergone the most complete transformation since the Protectorate was established. Before 1890, this little Arab town did not have more than 5,000 inhabitants; its port—a flourishing one in the days of piracy—and the canal uniting it to the lake were choked with sand, admitting only vessels of the smallest draft. Now, a French town has sprung up by its side, whose population is estimated at 20,000 inhabitants, including 4,500 Europeans, 2,000 French civil employees, and 5,000 troops. A complete system of forts and batteries is being constructed around it. A canal, 29½ feet deep and 210 feet wide, allows entrance to the largest ironclads. Two piers protect the port, which will be sheltered by a mole. Parliament has voted a sum of $1,659,800 for additional works. A wharf 218 yards long, accessible to vessels drawing 23 feet of water, has been built on the banks of the canal, equipped with lifting engines, sheds, iron railways, and water pipes to facilitate the loading and unloading of vessels. In five years, the Port Company has executed an immense work, costing not less than $2,026,500, of which $868,500 has been paid by the company and $1,158,000 remains at the charge of the Tunis budget.

The admirable situation of Bizerta, near Cape Blanco, the most northern point of the African continent, and on the direct route from Gibraltar to Port Said, permits it to compete under the most favorable conditions with Algiers and Malta in the revictualing of vessels going to or returning from the Orient. As regards supplies, it is infinitely better endowed than Malta, which produces nothing, and is quite as well favored as Algiers. Fresh stores, beef, fish, and vegetables are found in abundance; the water is excellent in quality and unlimited in quantity. The waters of the whole Tunisian coast abound in fish. In 1897, the Port Company caught 11,023,000 pounds of fish, of which 220,460 pounds were exported to France. A recent official publication of Tunis says: "There is no reason why Tunis should not rival Algeria, whose fruits and kitchen-garden products are now consumed everywhere in France, and in Europe generally. It is only thirty-six hours distant from Marseilles, with a fertile soil and an agreeable and healthy climate. There is no dead season in Tunis; no frost to harden the ground; the farmer has two or three months more in which to prepare his ground than in France, and manual labor (that is, Arab) is cheap. The visitor in summer or autumn is struck with the nakedness of the country; but with the first rains the ground is covered with flowers and verdure, and one recognizes the land which was once a granary of ancient Rome."

Commerce in the Central Sudan.—The following details concerning imports into the Central Sudan are taken from the Bulletin de Géographie Commerciale, Paris, 1900:

Most of the merchandise sold in the markets of In-Salah, Ghat, and Ghadamès is introduced through Tripoli and Morocco. Of the tissues imported from Europe into Tripoli, seven-tenths, at least, are sent to the Sudan. Woolen textiles are nearly all of Austrian origin; cottons, calicoes, and indiennes of all kinds come mostly from Manchester. Only one French house is represented in this importation. Ninety per cent of the sugar comes from Austria. This sugar, almost always powdered, is packed in waterproof sacks, solidly made to bear transportation. Tea, generally from Malta, is carried by every caravan. The original Chinese boxes are covered with strong, coarse canvas and then wrapped in fresh skins. The packages weigh a little over 8 ounces.

Hardware and tinware come from Germany. The articles most in demand are padlocks, hinges, chains of small size, tacks, nails, iron bars three-tenths of an inch to 5½ inches square, iron and brass wire, and medium-sized copper wire. Glass and glass beads are either of Italian or Austrian origin. Hand glasses and small decorated mirrors are in great demand, and beads of all kinds—white, cream, and ivory, especially—have a good sale. For necklaces, bracelets, and rosaries, colored beads are used and gold-colored ones for embroideries. Besides necklaces of beads, coral, and shell, all caravans carry necklaces, rings, bracelets, and brooches of silver. There is little sale for gold jewelry, but plated jewelry is always sought, as are imitation jewels. These must be either red, blue, or white. These articles come from Germany, Austria, Italy, and America. The most important import of all is that of essences and perfumes. A single caravan often carries $4,000 worth of essences, and the average yearly sales amount to over $80,000. Bulgaria and Germany have almost the monopoly of this trade. These essences are generally good and remarkably cheap; they are sold by the pound, according to quality, and consist chiefly of musk, jasmine, geranium, sandalwood, mint, cinnamon, nutmeg, and cloves. Another import of increasing importance consists of the various coverings or mantles used by the Arabs, haïcks, serouals, bournous, etc. The Jews of Tripoli manufacture enormous quantities of these, which find their way as far as Darfour and the Egyptian Sudan.

The Cotton-Piece-Goods Trade of the French Kongo.—The Board of Trade Journal, of London, says:

The annual consumption of the French Kongo during the last few years has been from 500,000 to 600,000 pieces of different kinds, of which seven-tenths are dyed or woven colored goods. More than nine-tenths of these are of other than French manufacture, being chiefly Manchester goods and goods from Ghent and Zurich, a small quantity also coming from Holland. Explorers formerly bought largely of French manufactured goods, and made efforts to place French piece goods on the markets of the Upper Ogowé, Sangha, and Oubanghi. These efforts, however, were unsuccessful, French piece goods being stated to be either too good for noncivilized markets, or not prepared according to the taste of the natives. The chief centers of importation are Libreville, N'Djolé, Fernand-Vaz, Cape Lopez, N'Gové, Sette-Cama, Nyanga, Mayumba, Le Kailon, Loango, and Brazzaville. The principal markets are the regions around these centers. The natives of the interior prefer dyed or woven colored goods; those who live near the coast like prints, such as printed cottons and red and blue handkerchiefs. All cotton cloths, without exception, are sold by English measure. The width and length of the various articles now in use are as follows:

In the Gaboon Basin.—Length, 20 yards; width, 26 to 28 inches; 20 folds for stuffs in pieces; for handkerchiefs, the dimensions are 30 by 32 inches, each piece containing eight to twelve handkerchiefs.

In the Conventional Basin (*Kongo*).—Pieces, 20 yards in length, 24 inches in width, and 24 folds; handkerchiefs, 30 by 32 inches, the piece containing eight to twelve handkerchiefs for certain regions; and for others, pieces of 8 yards, 12 folds; 12 yards, 18 folds; and 16 yards, 24 folds. The widths vary from 20 to 24 inches.

In the Upper Kongo.—Pieces of 8 yards, 12 folds; 12 yards, 18 folds; and 14 yards, 24 folds; the width being invariably 36 inches.

French Kongo, for customs purposes, is divided into two distinct parts—the part protected by differential tariffs, viz, the old Gaboon Basin, and the part not protected, viz, the Conventional Basin. In the whole of the Gaboon Basin, piece goods of French manufacture are admitted free; foreign goods are subject to certain duties according as they are dyed or printed, unbleached or bleached. In the Conventional Basin, all goods are subject to the same import duty, viz, 6 per cent ad valorem.

Pearl Fishing in West Australia.—The following statistics are taken from a report in Nachrichten für Handel und Industrie, Berlin:

During the year 1900, there were 177 vessels engaged in the pearl and mother-of-pearl shell fisheries on the northwest coast of West Australia The total number of men employed approximated one thousand. On account of the unfavorable weather, the profits of last season were not so great as was expected. From the year 1889 to 1899, the product of the fishery was as follows:

Mother-of-pearl shells.

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	Tons.			*Tons.*	
1889	744	$362,311	1895	353	$127,784
1890	702	341,872	1896	362	146,774
1891	749	437,401	1897	366	187,993
1892	781	381,879	1898	538	372,706
1893	541	282,242	1899	639	425,069
1894	423	172,756			

It is extremely difficult to give the value of the pearls taken. It is estimated in the official statistics at $1,459,950 for the last ten years, making, with the mother-of-pearl shells, the total product of these fisheries $4,379,850. These figures seem very favorable, but the attendant expenses are also considerable. The crew of each lugger receives, on an average, $535 a year; besides, the diver receives $97 for every ton of shells of mother-of-pearl.

Railway in German Southwest Africa.—A recent issue of the Board of Trade Journal, of London, says:

It is stated that the sum of $729,975 has been inserted in the estimates for the continuation of the railway and telegraph from Swakopmund to Windhoek. The railway has now been constructed as far as Karibib, 120 miles from the coast. The cost of construction of this section amounted to $1,516,839. It is estimated that the remaining section, Karibib-Windhoek, will have a length of 124 miles, and will cost $1,824,938. The total cost of the entire line from Swakopmund to Windhoek will accordingly be $3,341,777.

INDEX.

VOL. LXVII—NOS. 252, 253, 254, AND 255.

Abyssinia:
  Ironware, 57.
  Slave trade, 187.
Aërial navigation, France, 257.
Africa:
  Dahomey, railway, 147.
  Egypt, slave trade, 185.
  Kongo Free State, resources, 183.
  Kongo, French, cotton-piece-goods trade, 579.
  Rubber, 575.
  Sudan, Central, commerce, 579.
  Suez Canal traffic, 188.
  Tunis, improvements, 578.
Africa, British West, railways, 309.
Africa, East:
  Abyssinia, ironware, 57.
  German, 181.
  German mineral resources, 308.
  German railways, State, 577.
  German plantations, 576.
  Mozambique, cutlery, 57.
  Slave trade, 187.
Africa, French, rubber, 444.
Africa, French West, United States trade, 294.
Africa, German East, 181.
  Mineral resources, 308.
  Plantations, 576.
  Railways, State, 577.
Africa, German Southwest:
  Railway, 443.
  Railways, State, 581.
Africa, German West, cotton raising, 423.
Africa, South:
  Agriculture and live stock, 420.
  Cape Colony, copper ores, reduction, 43.
  Cape Colony, United States trade, loss, 139.
  Corn, United States, 107.
  Horses, demand, 422.
  Meat, 109.
Africa, South—Continued.
  Oil indications, 108.
  Shoes, 140.
  Trade, 175.
  Trade conditions, 165.
  Transvaal, trade openings, 140.
Africa, West, trade notes, 111.
Agricultural exposition, Nantes, 258.
Agricultural implements, Russia, testing, 148.
Agricultural machinery:
  Germany, 349.
  International exposition, Lodi, 297.
Agricultural machines, Russia, Egypt, Algeria, and Australia, 56.
Agriculture, South Africa, 420.
Albert, T. J. (consul, Brunswick):
  Cotton raising, German West Africa, 423.
  Steam heating and plumbing, Germany, 347.
Alcock, W. J. (acting consular agent, Huelva), copper ores, Huelva, reduction, 26.
Alcohol-consuming apparatus, exhibition, Paris, 500.
Alexandria:
  Coal hoister, United States, 183.
  Railway to Shanghai, proposed, 105.
Algeria, machines, agricultural, 56.
Allen, H. N. (minister, Seoul):
  Electric railway development, Korea, 532.
  Gold mines, Korea, 231.
  Kerosene, United States, Korea, 406.
  Railway, Korea, new, 99.
  Rice exports, Korea, prohibited, 454.
Almond crop, world's, 78.
America, Central, treaties, 552.
America, South:
  Clay flagstones, 447.
  Cocoanuts and copra, production, 113.

America, South—Continued.
    Mahogany, 155.
    Rubber, 575.
America, steamship line to Java, proposed, 298.
Amsterdam, congress, insurance physicians, 440.
Antwerp ivory market, 274.
Apples, South Australian, Vienna, 450.
Arabia, wool trade, 568.
Argentine Republic:
    Barrels, 154.
    Textiles, 129.
    Trade (1901), 424.
    Trade treaty with Brazil, 456.
Artificial leather, Germany, 296.
Artificial manures, Spain, demand, 449.
Asia, Central, cotton, 233.
Assay office, Vancouver, 304.
Association, builders', Austria, 150.
Association, German commercial, Japan, 143.
Association, promoting commercial instruction, 144.
Athens, congress, archæological, 449.
Atwell, W. P. (consul, Roubaix):
    Gutta-percha tree, efforts to save, 402.
    Wool production and manufacture, France, 514.
Auction, quinine, Batavia, 139, 201, 440.
Australasia:
    Copper ores, reduction, 33.
    Sapphire production, 309.
Australia:
    Cable soundings, 416.
    Iron, bar, United States, 418.
    Machines, agricultural, 56.
    New South Wales, bauxite, 203.
    New South Wales, diamonds, 202.
    New South Wales, iron and steel manufacture, 443.
    New South Wales, zinc and manganese, 417.
    Steamship lines, new, 301.
    Victoria, fruit, fresh, preserving, 152.
    Victoria, gold jubilee, 152.
Australia, West, pearl fishing, 580.
Austria, water power, utilization, 74.
Austria-Hungary:
    Builders' association, 150.
    Canal system, great, State, 50.
Austria-Hungary—Continued.
    Copper ores, reduction, 31.
    Exposition, automobile, 293.
    Grain futures, dealings, 150.
    Industrial movements, Hungary, 268.
    Medical and chemical preparations, Hungary, 388.
    Medicines, patent, 266.
    Sponges, United States, Hungary, 527.
    United States competition, 265.
    Vienna, apples, South Australian, 450.
    Vienna, meat, horse, 386.
    Wood drying, electric, Austria, 451.
Automobile exposition, Hungary, 293.
Automobiles:
    Europe, 43.
    India, 151.
Aymé, L. H. (consul, Guadeloupe), iron sands, Guadeloupe, 446.

Baker, O. H. (consul, Sydney):
    Bauxite, New South Wales, 203.
    Copper ores, New South Wales, rereduction, 33.
    Diamonds, New South Wales, 202.
    Zinc and manganese, New South Wales, 417.
Baldwin, G. E. (consul, Nuremberg), hop crop, world's (1901), 525.
Banana meal, market, Europe, 151.
Bangkok, trams and telephones, 415.
Bank, closing, Nicaragua, 303.
Bank, new, Nicaragua, 433.
Banks, Japan, 229.
Bar iron, United States, Australia, 418.
Barlow, A. D. (consul-general, Mexico, City):
    Cereals, Mexico, scarcity, 561.
    Copper ores, Mexico, reduction, 40.
Barrels, Argentine Republic, 154.
Batavia, quinine auction, 139, 201, 440.
Bauxite, New South Wales, 203.
Bead trimmings, Eibenstock, 248.
Beans:
    Duties, Venezuela, 304.
    Venezuelan tariff, 455.
Beds, Tamatave, demand, 301.
Belgian glass workers, United States, 448.

Belgium:
  Antwerp ivory market, 274.
  Antwerp-Paris railway, electric, proposed, 299.
  Brussels-London telephone, new, 573.
  Brussels, sugar congress, 564.
  Coal discoveries, 573.
  Coal mines, electric power, 392.
  Corn, indian, 390.
  Hydrosilicate of aluminum and magnesium, demand, 299.
  Railways, State, rolling stock, 392.
  Rolling stock, bids, 299.
  Strike, glass workers, 150.
Bellows, E. C. (consul-general, Yokohama):
  Copper ores, Japan, reduction, 43.
  Japan, industrial development, 216.
  Japanese trade (1900), 223.
  Labor conditions, Japan, 547.
  Shimonoseki, Japan, growth, 144.
Berehaven, rival of Liverpool, 516.
Bergh, R. S. S. (consul, Gothenburg), fuel, new, Swedish State railways, 524.
Berlin:
  Electric traction, high-speed, 250.
  Exposition, fire preventing and extinguishing apparatus, 492.
  Railway, electric, high-speed experiments, 353.
Berliner, S. (consul, Teneriffe), cable service, Canary Islands, 569.
Beutelspacher, G. (commercial agent, Moncton):
  Copper ores, New Brunswick, reduction, 40.
  Petroleum, New Brunswick, 447.
Bicycle trade:
  Germany, 343.
  United States, France, obstacles, 71.
Bicycles, Turkey, 190.
Bittinger, J. L. (consul-general, Montreal), corundum deposits, Canada, 284.
Blotting paper, Germany, market, 70.
Boilers, Spain, disincrustation, 395.
Bolivia:
  Commercial conditions, 571.
  Economic situation, 167.
  La Paz, trade, 429.
Bonded warehouses, Mexico, 289.
Bordewich, H. (consul-general, Christiania), copper ores, Christiania, reduction, 25.
Borneo, Chinese settlement, 138.
Bouchsein, M. (consul, Barmen), ironware and machinery export, suggestions, 56.
Bowen, H. W. (minister, Caracas), tariff, Venezuelan, corn and beans, 455.
Box factory, United States, Japan, 101.
Boyle, J. (consul, Liverpool), Liverpool, rival, threatened, 516.
Bray, J. T. (consul-general, Melbourne):
  Bar iron, United States, Australia, 418.
  Copper ores, Tasmania, reduction, 37.
  Iron and steel manufacture, New South Wales, 443.
  Meat exports, frozen, New Zealand, 443.
  Steamship lines, new, Australia, 301.
Brazil:
  Coal, United States, opening, 557.
  Cocoanuts and copra, production, 113.
  Financial situation, 275.
  Passengers leaving, arrest, 302.
  Sugar trade, 554.
  Trade treaty with Argentine Republic, 456.
Brazil-United States steamship syndicate, 428.
Breadstuffs, Germany, impending deficit, 82.
Bremen-Cuba steamship line, 569.
Brick, fire, United States, Ontario, 455.
Bridge, St. Petersburg, bids, 300.
Briquettes:
  Coke, Germany, 142.
  Garbage, 439.
  Lignite and peat, Germany, 342.
British Columbia, strikes, 289.
British Guiana:
  Cocoanuts and copra, production, 117.
  Kaolin clay, 128.
British West Africa, railways, 309.
Brittain, J. I. (consul, Nantes):
  Bicycle trade, United States, France, obstacles, 71.
  Exposition, agricultural, Nantes, 258.
  Loire River, improvements, 72.

- Bronze powder, Germany, manufacture, 65.
- Brundage, F. M. (consul, Aix la Chapelle), cotton, mercerized, Germany, 64.
- Brunot, H. S. (consul, St. Etienne):
  - Detonating device, France, 508.
  - Steam generator, France, new, 507.
- Brussels-London telephone, new, 573.
- Brussels, sugar congress, 564.
- Bryan, C. P. (minister, Petropolis), passengers leaving Brazil, arrest, 302.
- Buck, A. E. (minister, Tokyo), economic conditions, Japan, 219.
- Builders' Association, Austria, 150.
- Building system Monier, Netherlands, 76.
- Bulgaria:
  - Oil of roses, 296.
  - Stoves, 56.
- Burke, M. J. (consul, St. Thomas), horses, Canada, sales, 447.
- Butter, China, 454.
- Buttons, China, 533.

- Cable, Hongkong to United States, proposed, 416.
- Cable service:
  - Canary Islands, 569.
  - Chefoo, 300.
  - Tampico, 154.
- Cable soundings, Australia, 416.
- Cables, Greece, 450.
- Cadiz, salt industry, 397.
- Caldwell, J. C. (consul, San José), shoes, Costa Rica, tariff, 550.
- Canada:
  - Copper ores, reduction, 39.
  - Corundum deposits, 284.
  - Dawson, conditions, 287.
  - Horses, sales, 447.
  - Klondike mining companies, fraudulent, 571.
  - New Brunswick, petroleum, 447.
  - Ontario, canal improvements and water power, 153.
  - Ontario, fire brick, United States, 455.
  - Ontario, mining, 285.
  - Ontario, trade notes, 154.
  - Ottawa, gas and oil discoveries, 136.
  - Taxes, Prince Edward Island, 304.
- Canada—Continued.
  - Toronto, United States goods agency, 304.
  - Vancouver, assay office, 304.
  - Wood, preserving, discovery, 153.
  - Yukon, Upper, furs, 548.
- Canada, W. W. (consul, Veracruz):
  - Bonded warehouses, Mexico, 289.
  - Duty, oleomargarine, Mexico, 301.
  - Imports, free, Yucatan, 280.
  - Machinery, well-boring and windmills, Yucatan, 134.
  - Steam navigation, Tabasco River, 434.
- Canal improvements, Ontario, 153.
- Canal, Suez:
  - Improvements, 104.
  - Traffic, 188.
  - Traffic, Germany's share, 141.
- Canal system, Austria, great, State, 50.
- Canal traffic, Germany, 292.
- Canals, ship, Russia, 51.
- Canary Islands:
  - Cable service, 569.
  - Imports, 112.
- Cape Colony:
  - Copper ores, reduction, 43.
  - Trade conditions, 167.
  - Transportation, 170.
  - United States trade, loss, 139.
- Caracas, portable houses, 155.
- Caribe, port improvements, 156.
- Carleton, A. E. (consular agent, Almeria), mineral production, Spain (1900), 520.
- Carlsbad, street railway, electric, 451.
- Carroll, J. H. (consul, Cadiz), salt industry, Cadiz, 397.
- Cartagena, cocoanuts and copra, production, 115.
- Carter, M. J. (consul, St, John's), copper ores, Newfoundland, reduction, 40.
- Cattle, eastern Siberia, 232.
- Cellulose, Italy, demand, 573.
- Cement:
  - Peru, 154.
  - Portland, German exports, 348.
- Census, Germany, 452.
- Central America, treaties, 552.
- Central Asia, cotton, 233.
- Central Sudan, commerce, 579.
- Ceramo-crystal pavements, 574.
- Cereal exportation, Turkey, prohibited, 305.

Cereals, Mexico, scarcity, 561.
Chambers of commerce, foreign countries, 378.
Charitable work, Marseilles, 293.
Chefoo, cable service, 300.
Chemical fire engines, Haiti, opening, 569.
Chemical preparations, Hungary, 388.
Chester, F. D. (consul, Budapest):
  Commercial travelers, Hungary, law respecting, 91.
  Dock, floating dry, Odessa, 523.
  Exposition, automobile, Hungary, 293.
  Medical and chemical preparations, Hungary, 388.
  Sponges, United States, Hungary, 527.
Chicle gum, Mexico, 282.
Chile:
  Copper ores, reduction, 41.
  Trade (1900), 302.
  Wine production, 429.
China:
  Butter, 454.
  Chefoo, cable service, 300.
  Commercial relations with Japan, 442.
  Cotton yarn, Chinese vs. Japanese, 567.
  Customs duties, payment, 546.
  Foreign goods, 534.
  Grain transport, taxes, 545.
  Handkerchiefs, towels, and buttons in, 533.
  Hongkong, cable to, proposed, 416.
  Manchuria, grain foods, 543.
  Niuchwang, Russian administration, 441.
  Niuchwang, trade, 543.
  Pekin syndicate, 440.
  Railways, German, 568.
  Rivers, improving, 410.
  Roads, protection, 214.
  Shanghai, railway to Alexandria, proposed, 105.
  Trade (1901), 213.
  Trade notes, 414.
  Yangtze floods, 441.
  Yunnan, mineral resources, 307.
  Yunnan, railway, 307.
China, southern, United States trade, 205.
China, western, mercury mine, 163.
Chinese settlement, Borneo, 138.
Clay flagstones, South America, 447.
Clay, kaolin, British Guiana, 128.
Clothing, men's, Turkey, demand, 138.
Coal discoveries, Belgium, 573.
Coal, East Siberia, 102.
Coal-hoister, American, Alexandria, 183.
Coal mines, Belgium, electric power, 392.
Coal, United States:
  Brazil, opening, 557.
  Europe, 294, 452.
  Germany, 573.
  Levant, demand, 305.
  Malta, 92.
  Switzerland, 382.
Cocoanuts:
  Brazil, production, 113.
  British Guiana, production, 117.
  Cartagena, production, 115.
  Colon, production, 115.
  Dutch Guiana, production, 117.
  Ecuador, production, 116.
  French Guiana, production, 117.
  La Guayra, production, 118.
  Peru, production, 118.
  Puerto Cabello, production, 119.
  South America, production, 113.
Coffee, Costa Rica, duty, 156.
Coffee preparation, Haiti, 303.
Cognac industry, Malaga, 273.
Coke briquettes, Germany, 142.
Cole, C. L. (consul-general, Dresden), railway, suspension, Loschwitz, 58.
Colombia:
  Cartagena, cocoanuts and copra, production, 115.
  Colon, cocoanuts and copra, production, 115.
  Commercial conditions, 420.
  Duties, export, 132.
  Duty, spirits, 455.
  La Boca, wharf, 131.
Colon, cocoanuts, and copra, production, 115.
Columbia, British, strikes, 289.
Commercial association, German, Japan, 143.
Commercial instruction, association for promoting, 144.
Commercial travelers:
  Hungary, law respecting, 91.
  United States, Great Britain, 261.

Concessions:
  Harbor, Turkey, 561.
  Mexican-United States steamship, 445.
Conger, E. H. (minister, Pekin):
  Customs duties, China, payment, 546.
  Grain transport, China, taxes, 545.
Congress:
  Archæological, Athens, 449.
  Historical sciences, Rome, 290.
  Insurance physicians, Amsterdam, 440.
  Navigation, Düsseldorf, 564.
  Sugar, Brussels, 564.
Consular reports transmitted to other Departments, 158, 306, 456, 574.
Copper ores:
  Austria, reduction, 31.
  Canada, reduction, 39.
  Cape Colony, reduction, 43.
  Chile, reduction, 41.
  England, reduction, 23.
  France, reduction, 13.
  Germany, reduction, 1.
  Japan, reduction, 43.
  Mexico, reduction, 40.
  New South Wales, reduction, 33.
  New Zealand, reduction, 34.
  Norway, reduction, 25.
  South Australia, reduction, 35.
  Spain, reduction, 26.
  Tasmania, reduction, 37.
Copper, sulphate, Greece, demand, 93.
Copra:
  Brazil, production, 113.
  British Guiana, production, 117.
  Cartagena, production, 115.
  Colon, production, 115.
  Dutch Guiana, production, 117.
  Ecuador, production, 116.
  French Guiana, production, 117.
  La Guayra, production, 118.
  Peru, production, 118.
  Puerto Cabello, production, 119.
  South America, production, 113.
  Straits Settlements, 200.
Cork:
  Exhibition, 499.
  Exposition, proposed, 297.
Corn:
  Duties, Venezuela, 304.
  Indian, Belgium, 390.
Corn—Continued.
  United States, South Africa, 107.
  Venezuelan tariff, 455.
Corundum deposits, Canada, 284.
Costa Rica:
  Coffee, duty, 156.
  Shoes, tariff, 550.
Cotton industry, Russia, 52.
Cotton, mercerized, Germany, 64.
Cotton-piece-goods trade, French Kongo, 579.
Cotton raising, German West Africa, 423.
Cotton sheetings, demand, 272.
Cotton, Turkestan, 149.
Cotton yarn, Chinese vs. Japanese, 567.
Covert, J. C. (consul, Lyons):
  Ceramo-crystal pavements, 574.
  Grape and raisin trade, France, 453.
  Hailstorms, France, dispersion by cannonade, 509.
  Mining and trade, Madagascar, 531.
  Paris exhibition, alcohol-consuming apparatus, 500.
  Potato disease, France, 566.
  Sugar congress, Brussels, 564.
  Tobacco business, France, 502.
Crabs, export, Russia, 149.
Crops:
  Almond, world's, 78.
  Grain, Russia, 234.
  Hop, world's (1901), 525.
  Jordan-almond, Malaga, 396.
  Prospects, Russia, 453.
  Raisin, Europe, 81.
  Silk, Spain, 566.
  Wheat, France, deficient, 366.
  Wheat, India, 98.
Cuba:
  Bremen-Cuba steamship line, 569.
  Commerce with Hamburg, 498.
Customs administration, Persia, 96.
Customs duties, China, payment, 546.
Customs regulations, Germany, proposed, 157.
Cutlery, Mozambique, 57.
Cyprus, commerce, 270.

Dahomey, railway, 147.
Dawson, conditions, 287.
Debt, Nicaragua, 303.
Decorative art, exposition, Turin, 145.

De Leon, P. M. (consul-general, Guayaquil), street railway, electric, and lighting, Guayaquil, 430.
Denmark, gas engines, 298.
Dessau, exhibition, 145.
Detonating device, France, 508.
Diamonds, New South Wales, 202.
Dickey, W. B. (consul, Callao):
  Cement, Peru, 154.
  Cocoanuts and copra, Peru, production, 118.
Diederich, H. W. (consul, Bremen), Germany, industrial situation, 60.
Dillingham, F. (consul, Auckland), copper ores, New Zealand, reduction, 34.
Directory, business, Monterey, 303.
Disease, potato, France, 566.
Diseases, plant, sulphur for, Italy, 146.
Disincrustation of boilers, Spain, 395.
Dock, floating dry, Odessa, 523.
Doty, J. L. (consul, Tahiti), wharf, Papeete, Society Islands, 574.
Drainage works, Merida, 570.
Dry dock, floating, Odessa, 523.
Dudley, I. B. (minister, Lima), Peru, trade (1900), 277.
Dudley, L. E. (consul, Vancouver):
  Assay office, Vancouver, 304.
  Strikes, British Columbia, 289.
Düsseldorf, congress, navigation, 564.
Dutch Guiana, cocoanuts and copra, production, 117.
Dutch India, railways, 309.
Duties:
  Coffee, Costa Rica, 156.
  Corn and beans, Venezuela, 304.
  Customs, China, payment, 546.
  Emery wheels, Germany, 437.
  Export, Colombia, 132.
  Kerosene, Japan, proposed, 157.
  Oleomargarine, Mexico, 304.
  Spirits, Colombia, 455.
  Tobacco, Venezuela, 302.
  Turkey, new, 157.
  United States goods, new Russian, 300.

East Africa:
  Abyssinia, ironware, 57.
  German, 181.
  German, mineral resources, 308.
  German, plantations, 576.
East Africa—Continued.
  German, railways, State, 577.
  Mozambique, cutlery, 57.
  Slave trade, 187.
East India, trade hints, 97.
East Siberia, coal, 102.
Eastern Siberia, live stock and forestry, 232.
Ecuador·
  Cocoanuts and copra, production, 116.
  Guayaquil, street railway, electric, and lighting, 430.
Eggs, Germany, preservation, 142.
Egypt:
  Alexandria, coal hoister, American, 183.
  Alexandria, railway to Shanghai, proposed, 105.
  Machines, agricultural, 56.
  Slave trade, 185.
  Starch trade, 106.
  Suez Canal, improvements, 104.
  Suez Canal traffic, Germany's share, 141.
Eibenstock, bead trimmings, 248.
Electric developments, Korea, 532.
Electric plant, Greece, demand, 562.
Electric power, Belgian coal mines, 392.
Electric railway:
  Halle-Merseburg, 451.
  Paris-Antwerp, proposed, 299.
Electric State railway, Berlin, high-speed experiments, 250, 353.
Electric street railways:
  Carlsbad, 451.
  Guayaquil, 430.
  Nottingham, 515.
Electric wood drying, Austria, 451.
Electrical developments, Greece, 269.
Ellsworth, L. T. (consul, Puerto Cabello):
  Cocoanuts and copra, Puerto Cabello, production, 119.
  Port improvements, Caribe, 156.
  Portable houses, Caracas, 155.
  Puerto Cabello, trade, 124.
  Wharf improvements, Puerto Cabello, 155.
Emden, harbor, 292.
Emden, port, Germany, 564.
Emery wheels, Germany, duty, 437.
Engineers, United States, Russia, 522.

Engines:
  Chemical fire, Haiti, opening, 569.
  Gas, Denmark, 298.
  United States, Glasgow, 264.
  Waste-heat auxiliary, Germany, 358.
England:
  Copper ores, reduction, 23.
  Furniture, United States, 519.
  Granite, United States, 565.
  Liverpool, rival, threatened, 516.
  Manchester exports to United States, 77.
  Nottingham, lace and hosiery, 394.
  Nottingham, street railways, electric, 515.
  Sale agents, 151.
  Wood, United States paving, 452.
English control, Russian industries, 453.
English locomotives, Japan, 403.
Errata, Moscow trade with United States: Correction, 572.
Europe:
  Automobiles, 43.
  Banana meal, market, 151.
  Coal, United States, 294, 452.
  Communication with Iceland, 152.
  Export, goods, packing, 54.
  Locomotives, United States, 350.
  Railways, State, 57.
  Raisin crop, 81.
  Sea lighters, 524.
  United States business methods, 496.
  Vehicles, self-propelled, 376.
Exhibitions:
  Alcohol-consuming apparatus, Paris, 500.
  Cork, 499.
  Dessau, 145.
  Fabrics, Rouen, 369.
  Fruit and vegetable, Moscow, 299.
  United States goods, Harput, 191.
  Wearing apparel, Leipzig, 296.
Export company, Paraguay, 301.
Export duties, Colombia, 132.
Exports:
  Cereal, Turkey, prohibited, 305.
  Crabs, Russia, 149.
  Frozen meat, New Zealand, 443.
  German, to seats of war, 143.
  Germany to United States, 247.
  Goods, packing, 54.
  Grain, Persia, prohibited, 95.
Exports—Continued.
  Ironware and machinery, suggestions, 56.
  Manchester to United States, 77.
  Metal, Germany (1901), 237.
  Portland cement, Germany, 348.
  Puerto Cabello, 127.
  Rice, Korea, prohibited, 454.
  Works, art, Germany, 563.
Exporters to Peru, hints, 570.
Expositions:
  Agricultural, Nantes, 258.
  Automobile, Hungary, 293.
  British, St. Petersburg, 145.
  Cork, proposed, 297.
  Decorative art, Turin, 145.
  Fire preventing and extinguishing apparatus, Berlin, 492.
  Fisheries, St. Petersburg, 290.
  International, agricultural machinery, Lodi, 297.
  Japan, 145.
  Life-saving service, Frankfort, 145.
  Provincial, Malaga, 299.

Fabrics, exhibition, Rouen, 369.
Factory, box, United States, Japan, 101.
Farming machinery, Netherlands, demand, 448.
Fee, W. T. (consul, Bombay):
  Mangoes, India, 197.
  Match trade, Bombay, 199.
Fiber, maguey, extracting machine, 445.
Filters, Spain, prizes, 566.
Financial conditions, Mexico, 133.
Financial situation, Brazil, 275.
Finch, W. R. (minister, Montevideo), port works, Montevideo, begun, 456.
Fire brick, United States, Ontario, 455.
Fire engines, chemical, Haiti, opening, 569.
Fire, extinguishing, Rouen, 298.
Fire-insurance, France, opportunities, 253.
Firemen's exposition, Berlin, 492.
Fisheries exposition, St. Petersburg, 290.
Fisheries, pearl, Venezuela, 122.
Fishing, pearl, West Australia, 580.
Flagstones, clay, South America, 447.
Food and drink supply, Paris, 150.
Foods, grain, Manchuria, 541.
Forestry, eastern Siberia, 232.

Fowler, J. (consul, Chefoo), cable service, Chefoo, 300.
Fox, H. (consul, Falmouth), Falmouth, copper ores, reduction, 23.
France:
    Aërial navigation, 257.
    Bicycle trade, United States, obstacles, 71.
    Ceramo-crystal pavements, 574.
    Copper ores, reduction, 13.
    Cotton sheetings, demand, 272.
    Detonating device, 508.
    Exhibition, fabrics, Rouen, 369.
    Exposition, international, agricultural machinery, 297.
    Fire-insurance opportunities, 253.
    Gutta-percha tree, efforts to save, 402.
    Hailstorms, dispersion by cannonade, 509.
    Ice, 254.
    Loire River, improvements, 72.
    Lyons, grape and raisin trade, 453.
    Machines, spraying, opening, 72.
    Mail train, rapid, 147.
    Marseilles, charitable work, 293.
    Marseilles, oil and seed trade, 86.
    Nice, plumbing and sanitary appliances, 505.
    Nice, trade notes, 89.
    Paris-Antwerp railway, electric, proposed, 299.
    Paris exhibition, alcohol-consuming apparatus, 500.
    Paris, food and drink supply, 150.
    Petroleum as fuel, inquiries, 452.
    Potato disease, 566.
    Propelling small vessels, new method, 374.
    Rouen, fire, extinguishing, 298.
    Rouen, trade, direct, with Morocco, 140.
    Shooting cannon at clouds, 509.
    Steam generator, new, 507.
    Steamship line, report (1900), 253.
    Tax, inheritance, 372.
    Tobacco business, 502.
    United States vs. French silk industry, 369.
    Walnut market, 79.
    Wheat crop, deficient, 366.
    Wheat, shortage, 259.
    Wool production and manufacture, 514.
France, southern, wall paper, 368.
Frankenthal, A. L. (consul, Berne), patent medicines, Switzerland, 511.
Frankfort, exposition, life-saving service, 145.
Freeman, J. C. (consul, Copenhagen), gas engines, Denmark, 298.
French Africa, rubber, 444.
French Guiana, cocoanuts and copra, production, 117.
French Kongo, cotton-piece-goods trade, 579.
French school, Greece, 294.
French West Africa, United States trade, 294.
Fruit exhibition, Moscow, 299.
Fruit, fresh, Victoria, preserving, 152.
Fuel:
    Germany, new, 143.
    New railways, State, Sweden, 524.
    Petroleum, France, inquiries, 452.
Furnaces, smoke-consuming, Germany, 68.
Furniss, H. W. (consul, Bahia), cocoanuts and copra, Brazil, production, 113.
Furniture, United States, England, 519.
Furs, Upper Yukon, 548.

Garbage, briquettes, 439.
Gas discoveries, Ottawa, 136.
Gas engines, Denmark, 298.
Gaslight, Lucas, Germany, 158.
Gas-motor manufacture, Spain, 449.
Generator, new steam, France, 507.
German commercial association, Japan, 143.
German East Africa, 181.
    Mineral resources, 308.
    Plantations, 576.
    Railways, State, 577.
German money, Samoa, 300.
German Southwest Africa:
    Railway, 443.
    Railway, State, 581.
German West Africa, cotton raising, 423.
Germany:
    Berlin electric State railway, high-speed experiments, 250, 353.
    Berlin, exposition, fire preventing and extinguishing apparatus, 492.
    Bicycle trade, 343.
    Breadstuffs, impending deficit, 82.

Germany—Continued.
  - Bremen-Cuba steamship line, 569.
  - Briquettes, coke, 142.
  - Briquettes, garbage, 439.
  - Canal traffic, 292.
  - Carlsbad, street railway, electric, 451.
  - Census, 452.
  - Coal, United States, 573.
  - Copper ores, reduction, 1.
  - Cotton, mercerized, 64.
  - Customs regulations, proposed, 157.
  - Dessau, exhibition, 145.
  - Düsseldorf, congress, navigation, 564.
  - Eggs, preservation, 142.
  - Eibenstock, bead trimmings, 248.
  - Emden, harbor, 292.
  - Emden, port, 564.
  - Emery wheels, duty, 437.
  - Engine, waste-heat auxiliary, 358.
  - Exhibition, wearing apparel, Leipzig, 296.
  - Exports, Portland cement, 348.
  - Exports to seats of war, 143.
  - Exports to United States, 246.
  - Frankfort, exposition, life-saving service, 145.
  - Fuel, new, 143.
  - Furnaces, smoke-consuming, 68.
  - Gaslight, Lucas, 158.
  - Glass blowing by compressed air, 142.
  - Grain trade (1901), 438.
  - Hamburg, commerce with Cuba, 498.
  - Imports, grain, from Russia, 235.
  - Imports, grain, from United States, 235.
  - Industrial situation, 60.
  - Instruments, musical, trade, 245.
  - Insulating material, new, 304.
  - Insurance law, new, 463.
  - Ironware and machinery, export, suggestions, 56.
  - Labor conditions, 438.
  - Lace industry, 291.
  - Leather, artificial, 296.
  - Leather industry, 69, 346.
  - Lignite and peat briquettes, 342.
  - Machinery, agricultural, 349.
  - Manufacturers and tariff, proposed, 335.
  - Metal exports and imports (1901), 237.

Germany—Continued.
  - Musical instruments, trade, 245.
  - Paper, blotting, market, 70.
  - Passenger railway service with Odessa, 572.
  - Patent office practice vs. United States, 337.
  - Peat-machine swindle, 153.
  - Pens, United States steel, vs. German, 497.
  - Powder, bronze, manufacture, 65.
  - Prussia and Saxony, railways, State, new, 146.
  - Railway, Halle-Merseburg electric, 451.
  - Saxony, Loschwitz, railway, suspension, 58.
  - Saxony, metal workers' school, 240.
  - Sewing-machine industry, 528.
  - Ships, new giant, 291.
  - Silkworms, cultivation, 141.
  - Steam heating and plumbing, 347.
  - Steamship Company, Hamburg-American, new lines, 252.
  - Suez Canal traffic, share, 141.
  - Sugar as food, 437.
  - Tariff, new, proposed, 240.
  - Tariff, recent changes of classification, 63.
  - Tariff revision, 311.
  - Tobacco industry, 365.
  - Trade treaty with Salvador, 456.
  - Typesetting machines, 572.
  - United States trade, 246.
  - Wine industry, 344.
  - Workshops, cooperative, 439.
  - Works of art, imports and exports, 563.

Glasgow, engines, United States, 264.

Glass blowing by compressed air, Germany, 142.

Glass workers, Belgian, United States, 448.

Glass works:
  - Belgium, strike, 150.
  - Spain, 574.

Gold fields, Manchuria, 408.

Gold jubilee, Victoria, 152.

Gold mines, Korea, 231.

Goldschmidt, L. (consul, La Guayra):
  - Cocoanuts and copra, La Guayra, production, 118.
  - Pearl fisheries, Venezuela, 122.

Goldschmidt, L.—Continued.
  Port charges, Venezuela, 156.
  Rubber, Venezuela, 119.
  Tobacco duty, Venezuela, 302.
  Venezuela, trade notes, 123.
Goodnow, J. (consul-general, Shanghai), Yangtze floods, 441.
Gowdy, J. K. (consul-general, Paris), inheritance tax, French, 372.
Gracey, W. T. (consul, Fuchau), Chinese settlement, Borneo, 138.
Grain crop, Russia, 234.
Grain export, Persia, prohibited, 95.
Grain foods, Manchuria, 541.
Grain futures, Austria, dealings, 150.
Grain imports:
  Germany from Russia, 235.
  Germany from United States, 235.
Grain trade, Germany (1901), 438.
Grain transport, China, taxes, 543.
Granite, United States, England, 565.
Grape trade, France, 453.
Gratings, Spain, prizes, 566.
Great Britain:
  Spectacle frames, demand, 565.
  Tariff, protective, proposed, 515.
  Telephone, Brussels-London, new, 573.
  United States salesmen, 261.
Greece:
  Athens, congress, archæological, 449.
  Cables and telephones, 450.
  Electric plant, demand, 562.
  Electrical developments, 269.
  Levant, coal, United States, demand, 305.
  Petroleum, United States vs. Roumanian, 450.
  Railway, new, 573.
  School, French, 294.
  Sulphate of copper, demand, 93.
  Trade (1900), 162.
  United States trade, 562.
Greene, C. C. (consul, Antofagasta), copper ores, Chile, reduction, 41.
Greener, R. T. (commercial agent, Vladivostock):
  Coal, East Siberia, 102.
  Live stock and forestry, eastern Siberia, 232.
  Manchuria, conditions, 407.
Grinnell, W. T. (consul, Manchester), Manchester exports to United States, 77.
Grout, J. H. (consul, Malta):
  Coal, United States, Malta, 92.
  Refrigerators, Malta, 386.
Guadeloupe, iron sands, 446.
Guayaquil, street railway, electric, and lighting, 430.
Gudger, F. A. (vice-consul-general, Panama), wharf, La Boca, 131.
Guenther, R. (consul-general, Frankfort):
  Apples, South Australian, Vienna, 450.
  Barrels, Argentine Republic, 154.
  Congress, navigation, Düsseldorf, 564.
  Cuba, commerce with Hamburg, 498.
  Eggs, Germany, preservation, 142.
  Engineers, United States, Russia, 522.
  Exposition, life-saving service, Frankfort, 145.
  Fruit, fresh, Victoria, preserving, 152.
  Furnaces, smoke-consuming, Germany, 68.
  German commercial association, Japan, 143.
  Gold jubilee, Victoria, 152.
  Hamburg-American Steamship Company, new lines, 252.
  Imports, Canary Islands, 112.
  Iron pipes, Roumania, 304.
  Mahogany, South America, 155.
  Railway, Alexandria to Shanghai, proposed, 105.
  Railways, state, Europe, 57.
  Rolling stock, Belgium, bids, 299.
  Rubber culture, Perak, 444.
  Suez Canal, improvements, 104.
  Sulphur for plant diseases, Italy, 146.
  Transvaal, trade openings, 140.
  Ventilators and automobiles, India, 151.
  Workshops, cooperative, Germany, 439.
  Zuider Zee, draining, 75.
Guiana, British:
  Clay, Kaolin, 128.
  Cocoanuts and copra, production, 117.
Guiana, Dutch, cocoanuts and copra, production, 117.

- Guiana, French, cocoanuts and copra, production, 117.
- Gum, chicle, Mexico, 282.
- Gutta-percha tree, efforts to save, 402.

- Hailstorms:
  - France, dispersion by cannonade, 509.
  - Italy, dispersion by cannonade, 510.
- Haiti:
  - Coffee, preparation, 303.
  - Commercial conditions, 553.
  - Fire engines, chemical, opening, 569.
  - Tariff, 302, 569.
- Halle-Merseburg railway, electric, 451.
- Halstead, M. (consul, Birmingham):
  - Sale agents, England, 151.
  - Spectacle frames, Great Britain, demand, 565.
  - United States salesmen, Great Britain, 261.
- Hamburg-American Steamship Company, new lines, 252.
- Hamburg, commerce with Cuba, 498.
- Hamilton, J. E. (commercial agent, Cornwall):
  - Fire brick, United States, Ontario, 455.
  - United States goods, Toronto, agency, 304.
- Hamilton, J. E. (commercial agent, Morrisburg):
  - Canal improvements and water power, Ontario, 153.
  - Ontario, trade notes, 154.
- Hanauer, S. W. (deputy consul-general, Frankfort):
  - Agricultural implements, Russia, testing, 148.
  - Coal, United States, Europe, 452.
  - Exposition, British, St. Petersburg, 145.
  - Gratings and filters, Spain, prizes, 566.
  - Machines, United States, Roumania, 527.
  - Moscow trade with United States, 149.
  - Railway, German, China, 568.
- Handkerchiefs, China, 533.
- Hanna, T. C. (consul-general, Monterey):
  - Directory, business, Monterey, 303.
  - Mexico, financial conditions, 133.
- Harbor concession, Turkey, 561.
- Harbor, Emden, 292.
- Harput, exhibition, United States goods, 191.
- Harris, E. L. (consular agent, Eibenstock):
  - Bead trimmings, Eibenstock, 245.
  - Chambers of commerce, foreign countries, 378.
  - German manufacturers and proposed tariff, 335.
  - Grain imports, Germany, from Russia and United States, 235.
  - Mineral treasures, Eibenstock, 19
  - Silkworms, Germany, cultivation 141.
- Harris, H. W. (consul, Mannheim), machinery imports, Norway, 393.
- Hart, C. B. (minister, Bogotá), duty, spirits, Colombia, 455.
- Hats:
  - Mexico, 435.
  - Switzerland, 563.
- Hayden, J. E. (consul, Castellamare di Stabia), wheat, United States, Italian macaroni, 85.
- Haynes, T. (consul, Rouen):
  - Aërial navigation, France, 257.
  - Automobiles, Europe, 43.
  - Exhibition, fabrics, Rouen; United States vs. French silk industry, 369.
  - Exposition, international agricultural machinery, Lodi, 297.
  - Fire, extinguishing, Rouen, 298.
  - Food and drink supply, Paris, 150.
  - Ice, France, 254.
  - Mail train, France, rapid, 147.
  - Metric system, 453.
  - Rouen and Morocco, direct trade, 140.
  - Vehicles, self-propelled, Europe, 376.
  - Wheat crop, France, deficient, 366.
  - Wine, Portugal, 396.
- Heating, steam, Germany, 347.
- Heenan, T. E. (consul, Odessa):
  - Grain crop, Russia, 234.
  - United States goods, Russian duties, new, 300.
- Hill, F. D. (consul, Amsterdam):
  - Machinery, farming, Netherlands, demand, 448.
  - Matches, Netherlands, 448.
  - Metric system in foreign trade, 565.

Hill, F. D.—Continued.
  Monier building system, Netherlands, 76.
  Pekin syndicate, 440.
  United States business methods, Europe, 496.
  Zuider Zee, draining, 75, 572.
Hoister, United States coal, Alexandria, 183.
Holloway, W. R. (consul-general, St. Petersburg):
  Bridge, bids, St. Petersburg, 300.
  Cotton industry, Russia, 52.
  Railway, Trans-Baikal, 147.
Honduras, immigration scheme, 445.
Hongkong cable to United States, proposed, 416.
Hop crop, world's (1901), 525.
Horse meat, Vienna, 386.
Horses:
  Canada, sales, 447.
  South Africa, demand, 422.
Hosiery, Nottingham, 394.
Hossfeld, F. W. (consul, Trieste):
  Patent medicines, Austria, 267.
  Starch trade, Egypt, 106.
  Sugar industry, Italy, 383.
  Sulphate of copper, Greece, demand, 93.
Houses, portable, Caracas, 155.
Hughes, O. J. D. (consul-general, Coburg):
  Arabian wool trade, 568.
  Banana meal, Europe, market, 151.
  Builders' association, Austria, 150.
  Butter, China, 454.
  Clay flagstones, South America, 447.
  Coal discoveries, Belgium, 573.
  Cotton, Turkestan, 149.
  Crabs, export, Russia, 149.
  Fruit and vegetable exhibition, Moscow, 299.
  Fuel, German, new, 143.
  Glass blowing by compressed air, Germany, 142.
  Glass works, Spain, 574.
  Harbor concession, Turkey, 561.
  India, East, trade hints, 97.
  Labor conditions, Germany, 438.
  Leather, artificial, 296.
  Machinery, agricultural, Germany, 349.
  Machines, United States, Roumania, 527.
Hughes, O. J. D.—Continued.
  Manures, artificial, Spain, demand, 449.
  Merchant marine, Turkey, 305.
  Minerals, Persia, 401.
  Oil of roses, Bulgaria, 296.
  Passenger railway service, Odessa and Germany, 572.
  Peat machine, Germany, swindle, 153.
  Price lists, Siberia, 571.
  Railway, electric, Paris-Antwerp, proposed, 299.
  Railway, German Southwest Africa, 443.
  Railway, Greece, new, 573.
  Russian trade (1901), 567.
Hunt, W. H. (acting consul, Tamatave), bids, Tamatave, demand, 301.
Hurst, C. B. (consul-general, Vienna):
  Canal system, Austria, great, State, 50.
  Copper ores, Austria, reduction, 31.
  Horse meat, Vienna, 386.
  Patent medicines, Austria, 266.
  United States competition, Austria-Hungary, 265.
Hydrosilicate of aluminum, Belgium, demand, 299.

Ice, France, 254.
Iceland, communication with Europe, 152.
Immigration scheme, Honduras, 445.
Implements, agricultural, Russia, testing, 148.
Importation, machinery, Russia, 53.
Imports:
  Canary Islands, 112.
  Grain, Germany, from Russia, 235.
  Grain, Germany, from United States, 235.
  Machinery, Norway, 393.
  Metal, Germany (1901), 237.
  Puerto Cabello, 124.
  United States, from Germany, 247.
  United States, from Manchester, 77.
  Works of art, Germany, 563.
  Yucatan, free, 280.
India:
  Calcutta, museum, United States goods, proposed, 97.
  Mangoes, 197.
  Match trade, 199.

India—Continued.
  Ventilators and automobiles, 151.
  Wheat crop, 98.
India, Dutch, railways, 309.
India, East, trade hints, 97.
Indian corn, Belgium, 390.
Industrial supremacy, world's, struggle, 63.
Ingersoll, J. C. (consul, Cartagena):
  Cocoanuts and copra, Cartagena, production, 115.
  Export duties, Colombia, 132.
Inheritance tax, France, 372.
Instruments, musical, Germany, trade, 245.
Insulating material, new, 304.
Insurance:
  Fire, France, opportunities, 253.
  Law, new, Germany, 463.
  Physicians' congress, Amsterdam, 440.
Ireland:
  Cork, exhibition, 499.
  Cork, exposition, proposed, 297.
Iron:
  Bar, United States, Australia, 418.
  Manufacture, New South Wales, 443.
  Pipes, Roumania, 304.
Iron sands, Guadeloupe, 446.
Ironware:
  Abyssinia, 57.
  Export, suggestions, 56.
Italy:
  Cellulose, demand, 573.
  Hailstorms, dispersion by cannonade, 510.
  Lodi, exposition, international, agricultural machinery, 297.
  Milan, lodging house, cheap, 384.
  Rome, congress, historical sciences, 290.
  Shooting cannon at clouds, 510.
  Sugar industry, 383.
  Sulphur for plant diseases, 146.
  Turin, exposition, decorative art, 145.
  Wheat, United States, Italian macaroni, 85.
Italy, northern, labor commission, 297.
Ivory market, Antwerp, 274.

Jackson, F. W. (consul, Patras):
  Cables and telephones, Greece, 450.
  Congress, archæological, Athens, 449.
Jackson, F. W.—Continued.
  Electrical developments, Greece, 269.
  Petroleum, United States vs. Roumanian, 450.
  School, French, Greece, 294.
Jackson, G. H. (consul, La Rochelle), petroleum, fuel, France, inquiries, 452.
Jackson, J. B. (secretary of embassy, Berlin), Port Emden, Germany, 564.
Japan:
  Banks, 220.
  Box factory, United States, 101.
  Commercial relations with China, 442.
  Copper ores, reduction, 43.
  Cotton yarn, Chinese vs. Japanese, 567.
  Economic conditions, 219.
  Exposition, 145.
  German commercial association, 143.
  Industrial development, 216.
  Kerosene, duty, proposed, 157.
  Labor conditions, 547.
  Locomotives, United States and English, 403.
  Shimonoseki, growth, 144.
  Trade (1900), 223.
Jarvis, W. (consul, Milan), lodging house, cheap, Milan, 384.
Java:
  Batavia, quinine auction, 139, 201, 440.
  Steamship line to America, proposed, 295.
Jenkins, J. (consul, San Salvador), trademarks, Salvador, 135.
Johnson, F. S. S. (commercial agent, Stanbridge), wood, preserving, Canada, discovery, 153.
Johnson, H. A. (consul, Venice):
  Hailstorms, Italy, dispersion by cannonade, 510.
  Labor commission, northern Italy, 297.
Johnston, B. (consul, Utilla), immigration scheme, Honduras, 445.
Jordan-Almond crop, Malaga, 396.
Jubilee, gold, Victoria, 152.

Kaolin clay, British Guiana, 128.
Kehl, J. E. (consul, Stettin):
  Canals, ship, Russia, 51.
  Coal, United States, Germany, 573.

Kehl, J. E.—Continued.
  Exports, German, to seats of war, 143.
  Paper, blotting, Germany, market, 70.
  Sea lighters, Europe, 524.
  Sewing-machine industry, Germany, 528.
Kerosene:
  Japan, duty, proposed, 157.
  United States, Korea, 406.
Kindrick, C. W. (consul, Ciudad Juarez):
  Hats, Mexico, 435.
  Maguey fiber, extracting machine, 445.
King, H. (consul-general, Bangkok), trams and telephones, Bangkok, 415.
Klondike:
  Dawson, conditions, 287.
  Mining companies, fraudulent, 571.
Kongo Free State, resources, 183.
Kongo, French, cotton-piece-goods trade, 579.
Korea:
  Electric developments, 532.
  Gold mines, 231.
  Kerosene, United States, 406.
  Railway, new, 99.
  Rice exports prohibited, 454.

La Boca, wharf, 131.
La Guayra, cocoanuts and copra, production, 118.
La Paz, Bolivia, trade, 429.
Labor commission, northern Italy, 297.
Labor conditions:
  Germany, 438.
  Japan, 547.
Labor, manual, Mexico, 162.
Lace industry, German, 291.
Lace, Nottingham, 394.
Lands, public, Venezuela, 455.
Lang, P. (consul, Sherbrooke), copper ores, Quebec, reduction, 39.
Lathrop, L. A. (consul, Bristol), granite, United States, England, 565.
Law:
  Insurance, new, Germany, 463.
  Respecting commercial travelers, Hungary, 91.
Leather, artificial, Germany, 296.
Leather industry, Germany, 69, 346.
Leipzig, exhibition, wearing apparel, 296.
Leishman, J. G. A. (minister, Constantinople):
  Cereal exportation, Turkey, prohibited, 305.
  Duties, Turkey, new, 157.
Lenderink, H. J. (secretary of legation, Santiago), Chile, trade (1900), 302.
Levant, coal, United States, demand, 305.
Levantine walnut trade, 79.
Liefeld, E. T. (consul, Freiburg):
  Bicycle trade, Germany, 343.
  Metal workers' school, Saxony, 240.
Life-saving service, exposition, Frankfort, 145.
Lighters, sea, Europe, 524.
Lighting, electric, Guayaquil, 430.
Lignite briquettes, Germany, 342.
Lincoln, G. F. (consul-general, Antwerp), ivory market, Antwerp, 274.
Listoe, S. (consul, Rotterdam):
  Hungary, industrial movements, 268.
  Machinery, importation, Russia, 53.
  Roumania and Servia, industrial conditions, 90.
Live stock:
  Eastern Siberia, 232.
  South Africa, 420.
Liverpool, Berehaven a rival, 516.
Locomotives:
  United States and English, Japan, 403.
  United States, Europe, 350.
Lodging house, cheap, Milan, 384.
Lodi, exposition, international, agricultural machinery, 297.
Loire River, improvements, 72.
London-Brussels telephone, new, 573.
Long, J. G. (agent and consul-general, Cairo):
  Coal hoister, American, Alexandria, 183.
  Suez Canal traffic, 188.
Lord, W. P. (minister, Buenos Ayres):
  Argentine Republic, trade (1901), 424.
  Treaty, trade, Argentine-Brazilian, 456.
Loschwitz, railway, suspension, 58.
Lucas gaslight, Germany, 158.
Luxemburg, viaduct, new, 353.

Lyon, S. S. (consul, Hiogo):
  Box factory, United States, Japan, 101.
  Exposition, Japan, 145.
  Japanese-Chinese commercial relations, 442.
  Kerosene, Japan, duty proposed, 157.
  Locomotives, United States and English, Japan, 403.
Lyons, grape and raisin trade, 453.

Macaroni, Italian, wheat, United States, 85.
McCook, J. C. (consul, Dawson City):
  Dawson, conditions, 287.
  Furs, Upper Yukon, 548.
  Mining companies, Klondike, fraudulent, 571.
McFarland, S. C. (consul, Nottingham):
  Furniture, United States, England, 519.
  Lace and hosiery, Nottingham, 394.
  Street railways, electric, Nottingham, 515.
  Tariff, protective, Great Britain, proposed, 515.
McGinley, D. E. (consul, Athens):
  Electric plant, Greece, demand, 562.
  United States trade, Greece, 562.
Machines:
  Agricultural, Germany, 349.
  Agricultural, international exposition, Lodi, 297.
  Agricultural, Russia, Egypt, Algeria, and Australia, 56.
  Export, suggestions, 56.
  Farming, Netherlands, demand, 448.
  Importation, Russia, 53.
  Imports, Norway, 393.
  Peat, Germany, swindle, 153.
  Sewing, industry, Germany, 528.
  Sewing, United States, eastern Turkey, 529.
  Spraying, France, opening, 72.
  Typesetting, Germany, 572.
  United States, 527.
  Well-boring, Turkey, demand, 94.
  Well-boring, Yucatan, 134.
McWade, R. M. (consul, Canton), United States trade, southern China, 205.
Madagascar:
  Mining and trade, 531.
  Tamatave, beds, demand, 301.
Magill, S. E. (consul, Tampico), cable service, Tampico, 154.
Magnesium, Belgium, demand, 299.
Maguey fiber, extracting machine, 445.
Mahin, F. W. (consul, Reichenberg):
  Industrial supremacy, world's, struggle, 62.
  Russian industries, English control, 453.
  Street railway, electric, Carlsbad, 451.
  Water power, Austria, utilization, 74.
  Wood drying, electric, Austria, 451.
Mahogany, South America, 155.
Mail train, France, rapid, 147.
Malaga:
  Cognac industry, 273.
  Exposition, provincial, 299.
  Jordan-almond crop, 396.
  Mineral resources, 398.
Malayan Peninsula, Perak, rubber culture, 444.
Malmros, O. (consul, Colon), cocoanuts and copra, Colon, production, 115.
Malta:
  Coal, United States, 92.
  Refrigerators, 386.
Manchester exports to United States, 77.
Manchuria:
  Conditions, 407.
  Gold fields, 408.
  Grain foods, 541.
  Railways, State, 409.
Manganese, New South Wales, 417.
Mangoes, India, 197.
Manning, I. A. (consular agent, Matagalpa), Nicaragua, notes, 446.
Mansfield, R. E. (consul, Valparaiso), wine production, Chile, 429.
Manures, artificial, Spain, demand, 449.
Marine, merchant, Turkey, 305.
Markets:
  Banana meal, Europe, 151.
  Blotting paper, Germany, 70.
  Ivory, Antwerp, 274.
  Walnut, France, 79.
Marseilles:
  Charitable work, 293.
  Oil and seed trade, 86.
Martin, W. (consul, Chinkiang), China, trade conditions, 414.

Mason, D. B. (vice and deputy consul-general, Berlin), locomotives, United States, Europe, 350.
Mason, F. H. (consul-general, Berlin):
  Breadstuffs, Germany, impending deficit, 82.
  Bronze powder, Germany, manufacture, 65.
  Coal, United States, Switzerland, 382.
  Copper ores, Germany, reduction, 1.
  Electric traction, Berlin, high speed, 250.
  Emery wheels, Germany, duty, 437.
  Engine, waste-heat auxiliary, Germany, 358.
  Exposition, fire preventing and extinguishing apparatus, Berlin, 492.
  Financial situation, Brazil, 275.
  German metal exports and imports (1901), 237.
  Germany, exports to the United States, 247.
  Insurance law, new, Germany, 463.
  Lignite and peat briquettes, Germany, 342.
  Railway, electric, Berlin, high-speed experiments, 353.
  Tariff, German, recent changes of classification, 63.
  Tariff, new, German, proposed, 240.
  United States vs. German patent-office practice, 337.
Match trade:
  India, 199.
  Netherlands, regulations, 298.
Matches, Netherlands, 448.
Meal, banana, market, Europe, 151.
Meat:
  Horse, Vienna, 386.
  South Africa, 109.
Meat exports, frozen, New Zealand, 443.
Medical preparations, Hungary, 388.
Medicines, patent:
  Austria, 266.
  Switzerland, 511.
Merchant marine, Turkey, 305.
Mercerized cotton, Germany, 64.
Mercury mine, western China, 163.
Merida, drainage works and pavements, 570.
Merrill, S. (consul, Jerusalem), wagon roads, Palestine, 193.
Merry, W. L. (minister, San José):
  Coffee, Costa Rica, duty, 156.
  Nicaraguan-United States treaties terminated, 570.
Metal exports, Germany (1901), 237.
Metal imports, Germany (1901), 237.
Metal workers' school, Saxony, 240.
Metric system, 453.
Metric system in foreign trade, 565.
Mexico:
  Cereals, scarcity, 561.
  Chicle gum, 282.
  Copper ores, reduction, 40.
  Duty, oleomargarine, 304.
  Financial conditions, 133.
  Hats, 435.
  Labor, manual, 162.
  Maguey fiber, extracting, machine, 445.
  Merida, drainage works and pavements, 570.
  Monterey, business directory, 303.
  Steamship concession, 445.
  Tabasco, rivers, steam navigation, 434.
  Tampico, cable service, 154.
  Warehouses, bonded, 289.
  Yucatan, imports free, 280.
  Yucatan, machinery, well-boring, and windmills, 134.
Milan, lodging house, cheap, 384.
Miller, H. B. (consul, Niuchwang):
  China, foreign goods, 534.
  Cotton yarn, Chinese vs. Japanese, 567.
  Grain foods, Manchuria, 541.
  Handkerchiefs, towels, and buttons, China, 533.
  Niuchwang, Russian administration, 441.
Mine, mercury, western China, 163.
Mineral production, Spain (1900), 520.
Mineral resources:
  German East Africa, 308.
  Malaga, 398:
  Yunnan, 307.
Mineral treasures, Palestine, 195.
Minerals, Persia, 401.

Mines:
  Coal, Belgium, electric power, 392.
  Gold, Korea, 231.
Mining and trade, Madagascar, 531.
Mining companies, Klondike, fraudulent, 571.
Mining, Ontario, 285.
Monaghan, J. F. (consul, Chemnitz):
  Bremen-Cuba steamship line, 569.
  Census, Germany, 452.
  Suez Canal traffic, Germany's share, 141.
Money, German, Samoa, 300.
Monier building system, Netherlands, 76.
Montenegro, resources, 160.
Monterey, directory, business, 303.
Montevideo port works begun, 456.
Morgan, H. H. (consul, Aarau), hats, Switzerland, 563.
Morocco, trade, direct, with Rouen, 140.
Moscow:
  Exhibit, fruit and vegetable, 299.
  Trade with United States, 149.
  Trade with United States: Correction, 572.
Motor, gas, manufacture, Spain, 449.
Moulton, G. H. (consul, Demerara):
  Cocoanuts and copra, British, French, and Dutch Guiana, production, 117.
  Kaolin clay, British Guiana, 128.
Mozambique, cutlery, 57.
Murphy, C. A. (consular agent, Adelaide), copper ore, South Australia, reduction, 35.
Murphy, G. H. (vice-consul-general, Frankfort):
  Exporters to Peru, hints, 570.
  La Paz, Bolivia, trade, 429.
  Ships, new giant, Germany, 291.
  Sugar as food, 437.
  Textiles, Argentine Republic, 129.
  Viaduct, new, Luxemburg, 353.
Museum, United States goods, Calcutta, proposed, 97.
Musical instruments, Germany, trade, 245.

Nantes, exposition, agricultural, 258.
Natal, trade conditions, 170.
Navigation, aërial, France, 257.
Navigation, congress, Düsseldorf, 564.
Nelson, V. E. (consul, Bergen), copper ores, Bergen, reduction, 26.
Netherlands:
  Amsterdam, congress, insurance physicians, 440.
  Machinery, farming, demand, 448.
  Match trade, regulations, 298.
  Matches, 448.
  New method of construction, 76.
  Zuider Zee, draining, 75, 572.
Neuer, C. (consular agent, Gera), export, goods, packing, 54.
New Brunswick, petroleum, 447.
New South Wales:
  Bauxite, 203.
  Copper ores, reduction, 33.
  Diamonds, 202.
  Iron and steel manufacture, 443.
  Zinc and manganese, 417.
New Zealand:
  Copper ores, reduction, 34.
  Frozen-meat exports, 443.
Newel, S. (minister, The Hague), match trade, Netherlands, regulations, 298.
Nicaragua:
  Bank, closing, 303.
  Bank, new, 433.
  Debt, 303.
  Notes, 446.
  Rubber culture, 431.
  Treaties with United States terminated, 570.
Nice:
  Plumbing and sanitary appliances, 505.
  Trade notes, 89.
Niuchwang, Russian administration, 441.
Norton, T. H. (consul, Harput):
  Bicycles, Turkey, 190.
  Exhibition, United States goods, Harput, 191.
  Men's furnishings, Turkey, demand, 138.
  Sewing machines, United States, eastern Turkey, 529.
  Well-boring machinery, Turkey, demand, 94.
Norway:
  Copper ores, reduction, 25.
  Machinery imports, 393.
Nottingham:
  Lace and hosiery, 394.
  Street railways, electric, 515.

Odessa:
  Dock, floating dry, 523.
  Passenger railway service with Germany, 572.
Oil discoveries, Ottawa, 136.
Oil indications, South Africa, 108.
Oil:
  Kerosene, Japan, duty, proposed, 157.
  Sunflower seed, 567.
Oil of roses, Bulgaria, 296.
Oil trade, Marseilles, 86.
Oleomargarine, duty, Mexico, 304.
Ontario:
  Canal improvements and water power, 153.
  Fire brick, United States, 455.
  Mining, 285.
  Trade notes, 154.
Ores, copper:
  Austria, reduction, 31.
  Canada, reduction, 39.
  Cape Colony, reduction, 43.
  Chile, reduction, 41.
  England, reduction, 23.
  France, reduction, 13.
  Germany, reduction, 1.
  Japan, reduction, 43.
  Mexico, reduction, 40.
  New South Wales, reduction, 33.
  New Zealand, reduction, 34.
  Norway, reduction, 25.
  South Australia, reduction, 35.
  Spain, reduction, 26.
  Tasmania, reduction, 37.
Osborn, L. W. (consul-general, Apia), money, German, Samoa, 300.
Ottawa, gas and oil discoveries, 136.

Palestine:
  Mineral treasures, 195.
  Wagon roads, 193.
Papeete, Society Islands, wharf, 574.
Paper:
  Blotting, Germany, market, 70.
  Wall, southern France, 368.
Paraguay:
  Commercial progress, 131.
  Export company, 301.
  Industry, 163.
Paris:
  Exhibition, alcohol-consuming apparatus, 500.
  Food and drink supply, 150.
Patent medicines:
  Austria, 266.
  Switzerland, 511.
Patent-office practice, German vs. United States, 337.
Patterson, R. F. (consul-general, Calcutta):
  Museum, United States goods, Calcutta, proposed, 97.
  Wheat crop, India, 98,
Pavements:
  Ceramo-crystal, 574.
  Merida, 570.
Paving woods, United States, England, 452.
Pearl fisheries, Venezuela, 122.
Pearl fishing, West Australia, 580.
Peat briquettes, Germany, 342.
Peat machine, Germany, swindle, 153.
Peirce, H. H. D. (secretary of embassy, St. Petersburg), crop prospects, Russia, 453.
Pekin syndicate, 440.
Penlington, W. (consular agent, Gijon), copper ores, Gijon, reduction, 30.
Pens, United States steel, vs. German, 497.
Perak, rubber culture, 444.
Persia:
  Customs administration, 96.
  Economic conditions, 159.
  Grain export prohibited, 95.
  Minerals, 401.
  Trading company, 195.
Persian Gulf, trade opportunities, 295.
Peru:
  Cement, 154.
  Cocoanuts and copra, production, 118.
  Exporters to, hints, 570.
  Trade (1900), 277.
Petroleum:
  Fuel, France, inquiries, 452.
  New Brunswick, 447.
  United States vs. Roumanian, Greece, 450.
Phillips, D. T. (consul, Cardiff), paving wood, United States, England, 452.
Piatti, A. (vice and acting consul, Nice):
  Plumbing and sanitary appliances, Nice, 505.
  Wall paper, southern France, 368.
Pipes, iron, Roumania, 304.

Pitcairn, H. (consul, Hamburg), Portland cement, German exports, 348.
Plant diseases, sulphur for, Italy, 146.
Plumacher, E. H. (consul, Maracaibo):
    Lands, public, Venezuela, 455.
    Tariff changes, Venezuela, 455.
Plumbing:
    Germany, 347.
    Nice, 505.
Port charges, Venezuela, 156.
Port Emden, Germany, 292, 564.
Port improvements, Caribe, 156.
Port works, Montevideo, begun, 456.
Portable houses, Caracas, 155.
Portland cement, exports, Germany, 348.
Potato disease, France, 566.
Portugal, wine, 396.
Powder, bronze, manufacture, Germany, 65.
Powell, W. F. (minister, Port au Prince):
    Coffee, Haitian, preparation, 303.
    Fire engines, chemical, Haiti, opening, 569.
    Haiti, commercial conditions, 553.
    Tariff, Haiti, 302, 569.
Price lists, Siberia, 571.
Prince Edward Island, taxes, 304.
Protective tariff, Great Britain, proposed, 515.
Prussia, railways, State, new, 146.
Puerto Cabello:
    Cocoanuts and copra, production, 119.
    Imports and exports, 124.
    Trade, 124.
    Wharf improvements, 155.

Quicksilver mine, western China, 163.
Quinine auction, Batavia, 139, 201, 440.

Rails, United States, Spain, 453.
Railways:
    Alexandria to Shanghai, proposed, 105.
    British West Africa, 309.
    Dahomey, 147.
    Dutch India, 309.
    France, mail train, rapid, 147.
    German, China, 568.
    German Southwest Africa, 443.
    Greece, new, 573.
    Korea, developments, 532.
    Korea, new, 99.
Railways—Continued.
    Passenger service, Odessa and Germany, 572.
    Suspension, Loschwitz, 58.
    Yunnan, 307.
Railways, electric:
    Berlin, high-speed experiments, 250, 353.
    Halle-Merseburg, 451.
    Paris-Antwerp, proposed, 299.
    State, Berlin, high speed, 250.
Railways, electric street:
    Carlsbad, 451.
    Guayaquil, 430.
    Nottingham, 515.
Railways, state:
    Electric, Berlin, high speed, 250, 353.
    Europe, 57.
    German East Africa, 577.
    German Southwest Africa, 581.
    Manchuria, 409.
    Prussia and Saxony, new, 146.
    Rolling stock, Belgium, 392.
    Siam, 163.
    Sweden, fuel, new, 524.
    Trans-Baikal, 147.
Rairden, B. S. (consul, Batavia);
    Quinine auction, Batavia, 139, 201, 440.
    Steamship line, Java and America, proposed, 295.
Raisin crop, Europe, 81.
Raisin trade, France, 453.
Ravndal, G. B. (consul, Beirut):
    Coal, United States, Levant, demand, 305.
    Cyprus, commerce, 270.
    Soap and substitutes for, Syria, 530.
    Sunflower-seed oil, 567.
Refrigerators, Malta, 386.
Reinberg, M. (vice-consul-general, Guayaquil); cocoanuts and copra, Ecuador, production, 116.
Rice exports, Korea, prohibited, 454.
Ridgely, B. H. (consul, Malaga):
    Almond crop, world's, 78.
    Boilers, disincrustation, 395.
    Cognac industry, Malaga, 273.
    Exposition, provincial, Malaga, 299.
    Gas-motor manufacture, Spain, 449.
    Jordan-almond crop, Malaga, 396.
    Mineral resources, Malaga, 398.

Ridgely, B. H.—Continued.
  Rails, United States, Spain, 453.
  Raisin crop, Europe, 81.
  Silk crop, Spain, 566.
River Loire, improvements, 72.
Rivers:
  China, improving, 410.
  Tabasco, steam navigation, 434.
Roads, China, protection, 214.
Robinson, I. (consul, Norfolk Island), cable soundings, Australian, 416.
Rockhill, W. W. (commissioner, China), rivers, China, improving, 410.
Rolling stock, Belgium, bids, 299.
Rome, congress, historical sciences, 290.
Roosevelt, G. W. (consul, Brussels):
  Coal mines, Belgium, electric power, 392.
  Glass workers, Belgian, United States, 448.
  Kongo Free State, resources, 183.
  Railways, State, Belgium, rolling stock, 392.
  Strike, Belgian glass works, 150.
  Telephone, Brussels-London, new, 573.
Rouen:
  Exhibit, fabrics, 369.
  Fire, extinguishing, 298.
  Trade, direct, with Morocco, 140.
Roumania:
  Industrial conditions, 90.
  Iron pipes, 305.
  Machines, United States, 527.
Roumanian vs. United States petroleum, Greece, 450.
Rubber:
  Africa, 575.
  French Africa, 444.
  South America, 575.
  Venezuela, 119.
Rubber culture:
  Nicaragua, 431.
  Perak, 444.
Rublee, W. A. (consul-general, Hongkong), cable, Hongkong to United States, proposed, 416.
Ruffin, J. N. (consul, Asuncion):
  Export company, Paraguay, 301.
  Paraguay, commercial progress, 131.
Russell, W. W. (secretary of legation, Caracas), corn and beans, duties, Venezuela, 304.
Russia:
  Agricultural implements, testing, 148.
  Canals, ship, 51.
  Cotton industry, 52.
  Crabs, export, 149.
  Crop prospects, 453.
  Engineers, United States, 522.
  Exports, grain, to Germany, 235.
  Grain crop, 234.
  Industries, English control, 453.
  Machinery, importations, 53.
  Machines, agricultural, 56.
  Moscow, exhibit, fruit and vegetable, 299.
  Moscow trade with United States, 149.
  Moscow trade with United States: Correction, 572.
  Odessa, dock, floating dry, 523.
  Odessa, passenger railway service with Germany, 573.
  Railway, State, Trans-Baikal, 147.
  St. Petersburg, bridge, bids, 300.
  St. Petersburg, exposition, British, 145.
  St. Petersburg, exposition, fisheries, 290.
  Trade (1901), 567.
  United States goods, new duties, 300.
  Vladivostock, tariff, 454.

St. Petersburg:
  Bridge, bids, 300.
  Exposition, British, 145.
  Exposition, fisheries, 290.
Sale agents, England, 151.
Salt industry, Cadiz, 397.
Salvador:
  Trade-marks, 135.
  Trade treaty with Germany, 456.
Samoa, money, German, 300.
Sanitary appliances, Nice, 505.
Sapphire production, Australasia, 309.
Saxony:
  Loschwitz, railway, suspension, 58.
  Metal workers' school, 240.
  Railways, State, new, 146.
Schools:
  French, Greece, 294.
  Metal workers, Saxony, 240.

Schumann, W. (consul, Mainz):
  Leather industry, Germany, 69.
  Persian Gulf, trade opportunities, 295.
Scotland, engines, Glasgow, United States, 264.
Sea lighters, Europe, 524.
Seed trade, Marseilles, 86.
Seeger, E. (consul-general, Rio de Janeiro):
  Brazil-United States steamship syndicate, 428.
  Coal, United States, opening, Brazil, 557.
  Sugar trade, Brazil, 554.
Seoul-Fusan railway, 99.
Servia, industrial conditions, 90.
Sewing-machine industry, Germany, 528.
Sewing machines, United States, eastern Turkey, 529.
Seyfert, A. G. (consul, Stratford), mining, Ontario, 285.
Shanghai, railway to Alexandria, proposed, 105.
Sheetings, cotton, demand, 272.
Shimonoseki, Japan, growth, 144.
Ship canals, Russia, 51.
Ships, new giant, Germany, 291.
Shoes:
  Costa Rica, tariff, 550.
  South Africa, 140.
Siam:
  Bangkok, trams and telephones, 415.
  Railways, State, 163.
Siberia, East, coal, 102.
Siberia, eastern:
  Cattle, 232.
  Live stock and forestry, 232.
Siberia, price lists, 571.
Silk crop, Spain, 566.
Silk industry, United States vs. French, 369.
Silkworms, Germany, cultivation, 141.
Skinner, R. P. (consul-general, Marseilles):
  Charitable work, Marseilles, 293.
  Copper ores, France, reduction, 13.
  Cotton sheetings, demand, 272.
  Fire insurance, France, opportunities, 253.
  Oil and seed trade, Marseilles, 86.
  Railway, Dahomey, 147.
Skinner, R. P.—Continued.
  Walnut market, France, 79.
  Wheat shortage, France, 259.
Slave trade, Abyssinia, 187.
Smith, T. (consul, Moscow):
  Cotton, Central Asia, 233.
  Moscow trade with United States: Correction, 572.
Smoke-consuming furnaces, Germany, 68.
Soap and substitutes for, Syria, 530.
Society Islands, Papeete, wharf, 574.
Sorsby, W. B. (consul, San Juan del Norte):
  Bank, closing, Nicaragua, 303.
  Bank, new, Nicaragua, 433.
  Debt, Nicaragua, 303.
  Rubber culture, Nicaragua, 431.
  Treaties, Central America, 552.
South Africa:
  Agriculture and live stock, 420.
  Cape Colony, copper ores, reduction, 43.
  Cape Colony, United States trade, loss, 139.
  Corn, United States, 107.
  Horses, demand, 422.
  Meat, 109.
  Oil indications, 108.
  Shoes, 140.
  Trade, 175.
  Trade conditions, 165.
  Transvaal, trade openings, 140.
South America:
  Clay flagstones, 447.
  Cocoanuts and copra, production, 113.
  Mahogany, 155.
  Rubber, 575.
South Australia, copper ores, reduction, 35.
South Australian apples, Vienna, 450.
Southwest Africa, German:
  Railway, 443.
  Railway, State, 581.
Spain:
  Boilers, disincrustation, 395.
  Cadiz, salt industry, 397.
  Copper ores, reduction, 26.
  Gas-motor manufacture, 449.
  Glass works, 574.
  Gratings and filters, prizes, 566.
  Malaga, cognac industry, 273.

Spain—Continued.
  Malaga, exposition, provincial, 299.
  Malaga Jordan-almond crop, 396.
  Malaga, mineral resources, 398.
  Manures, artificial, demand, 449.
  Mineral production (1900), 520.
  Rails, United States, 453.
  Silk crop, 566.
Spectacle frames, Great Britain, demand, 565.
Sponges, United States, Hungary, 527.
Spraying machines, France, opening, 72.
Squiers, H. G. (secretary of legation, Pekin):
  Chinese trade (1901), 213.
  Roads, China, protection, 214.
  Trade, Niuchwang, 543.
State canal system, Austria, great, 50.
State railways:
  Belgium, rolling stock, 392.
  Electric, Berlin, high-speed, 250, 353.
  Europe, 57.
  German East Africa, 577.
  German Southwest Africa, 581.
  Manchuria, 409.
  New, Prussia and Saxony, 146.
  Siam, 163.
  Sweden, fuel, new, 524.
  Trans-Baikal, 147.
Starch trade, Egypt, 106.
Steam generator, France, new, 507.
Steam heating, Germany, 347.
Steam navigation, Tabasco rivers, 434.
Steamship company, Hamburg-American, new lines, 252.
Steamship concession, Mexican-United States, 445.
Steamship lines:
  Bremen-Cuba, 569.
  French, report (1900), 253.
  Java and America, proposed, 295.
  New, Australia, 301.
Steamship syndicate, Brazil-United States, 428.
Steel manufacture, New South Wales, 443.
Steel pens, United States vs. German, 497.
Stoves, Bulgaria, 56.
Stowe, J. G. (consul-general, Cape Town):
  Agriculture and live stock, South Africa, 420.
  Corn, United States, South Africa, 107.
Stowe, J. G.—Continued.
  Horses, South Africa, demand, 422.
  Meat, South Africa, 109.
  Oil indications, South Africa, 108.
  Shoes, South Africa, 140.
  South Africa, trade, 175.
  South Africa, trade conditions, 165.
  United States trade, Cape Colony, loss, 139.
Straits Settlements, copra, 200.
Street railways, electric:
  Carlsbad, 451.
  Guayaquil, 430.
  Nottingham, 515.
Strickland, P. (consul, Gorée-Dakar), United States trade, French West Africa, 294.
Strikes:
  Belgian glass works, 150.
  British Columbia, 289.
Sudan, central, commerce, 579.
Suez Canal:
  Improvements, 104.
  Traffic, 188.
  Traffic, Germany's share, 141.
Sugar congress, Brussels, 564.
Sugar, food, Germany, 437.
Sugar industry, Italy, 383.
Sugar trade, Brazil, 554.
Sulis, W. J. (vice and deputy consul, Liverpool), copper ores, Liverpool, reduction, 24.
Sulphate of copper, Greece, demand, 93.
Sulphur for plant diseases, Italy, 146.
Sunflower-seed oil, 567.
Suspension railway, Loschwitz, 58.
Sweden, fuel, new, State railways, 524.
Swiney, D. (consul, Cork), exposition, Cork, proposed, 297.
Switzerland:
  Association for promoting commercial instruction, 144.
  Coal, United States, 382.
  Hats, 563.
  Medicines, patent, 511.
Syndicate:
  Pekin, 440.
  Steamship, Brazil-United States, 428.
Syria:
  Harput, exhibition, United States goods, 191.
  Soap and substitutes for, 530.

Tabasco, rivers, steam navigation, 434.
Tamatave, beds, demand, 301.
Tampico, cable service, 154.
Tariffs:
  Changes, Venezuela, 455.
  German, classification, changes, recent, 63.
  German, proposed, and manufactures, 335.
  Haiti, 302, 569.
  New German, proposed, 240.
  Protective, Great Britain, proposed, 515.
  Revision, Germany, 311.
  Shoes, Costa Rica, 550.
  Venezuela, corn and beans, 455.
  Vladivostock, 454.
Tasmania, copper ores, reduction, 37.
Tax, inheritance, France, 372.
Taxes:
  Grain transport, China, 545.
  Prince Edward Island, 304.
Taylor, S. M. (consul, Glasgow), engines, United States, Glasgow, 264.
Telephones:
  Bangkok, 415.
  Greece, 450.
Terra del Fuego, commercial resources, 310.
Textiles, Argentine Republic, 129.
Thackara, A. M. (consul, Havre):
  Steamship line, French, report (1900), 253.
  Vessels, small, new method of propelling, 374.
Thieriot, J. H. (chargé d'affaires, Lisbon), rubber, French Africa, 444.
Thompson, E. H. (consul, Progreso):
  Chicle gum, Mexico, 282.
  Drainage works and pavements, Merida, 570.
Tobacco business, France, 502.
Tobacco industry, Germany, 365.
Tobacco, Venezuela, duty, 302.
Toronto, United States goods, agency, 304.
Towels, China, 533.
Trade-marks, Salvador, 135.
Trams, Bangkok, 415.
Trans-Baikal Railway, State, 147.
Transportation, Cape Colony, 170.
Transvaal, trade openings, 140.
Treaties:
  Central America, 552.
  Nicaraguan-United States, terminated, 570.
  Trade, Argentine-Brazilian, 456.
  Trade, Germany and Salvador, 456.
Tree, gutta-percha, efforts to save, 402.
Trimmings, bead, Eibenstock, 248.
Tunis, improvements, 578.
Turin, exposition, decorative art, 145.
Turkestan, cotton, 149.
Turkey:
  Bicycles, 190.
  Duties, new, 157.
  Exportation, cereals, prohibited, 305.
  Harbor concession, 561.
  Harput, exhibition, United States goods, 191.
  Levant, coal, United States, demand, 305.
  Machinery, well-boring, demand, 94.
  Men's furnishings, demand, 138.
  Merchant marine, 305.
Turkey, eastern, sewing machines, United States, 520.
Turner, C. E. (consul-general, Ottawa), gas and oil discoveries, Ottawa, 136.
Tyler, J. (vice-consul-general, Teheran).
  Customs administration, Persia, 96.
  Grain export, Persia, prohibited, 95.
  Persia, trading company, 195.
  Typesetting machines, Germany, 572.

United States:
  Bar iron, Australia, 418.
  Bicycle trade, France, obstacles, 71.
  Box factory, Japan, 101.
  Brazil, steamship syndicate, 428.
  Business methods, Europe, 496.
  Cable to Hongkong, 416.
  Coal, Brazil, opening, 557.
  Coal, Europe, 294, 452.
  Coal, Germany, 573.
  Coal, Levant, demand, 305.
  Coal, Malta, 92.
  Coal, Switzerland, 382.
  Competition, Austria-Hungary, 265.
  Corn, South Africa, 107.
  Engineers, Russia, 522.
  Engines, Glasgow, 264.
  Export, goods, packing, 54.

United States—Continued.
  Exports, grain, to Germany, 235.
  Fire brick, Ontario, 455.
  Furniture, England, 519.
  Glass workers, Belgian, 448.
  Goods, exhibition, Harput, 191.
  Goods, museum, Calcutta, proposed, 97.
  Goods, Russian duties, new, 300.
  Goods, Toronto, agency, 304.
  Granite, England, 565.
  Imports from Germany, 247.
  Imports from Manchester, 77.
  Kerosene, Korea, 406.
  Locomotives, Europe, 350.
  Locomotives, Japan, 403.
  Machines, Roumania, 527.
  Patent-office practice vs. German, 337.
  Paving wood, England, 452.
  Rails, Spain, 453.
  Salesmen, Great Britain, 261.
  Sewing machines, eastern Turkey, 529.
  Sponges, Hungary, 527.
  Steamship concession, 445.
  Steel pens vs. German, 497.
  Trade, Cape Colony, loss, 139.
  Trade, French West Africa, 294.
  Trade, Germany, 246.
  Trade, Greece, 562.
  Trade, Moscow, 149.
  Trade, Moscow: Correction, 572.
  Trade, southern China, 205.
  Treaties with Nicaragua terminated, 570.
  Wheat, Italian, macaroni, 85.
United States vs. French silk industry, 369.
United States vs. Roumanian petroleum, Greece, 450.
Uruguay, Montevideo, port works begun, 456.

Vail, D. J. (consul, Charlottetown), taxes, Prince Edward Island, 304.
Van Buren, H. S. (consul, Nice):
  Nice, trade notes, 89.
  Spraying machines, France, opening, 72.
Van Hee, J. A. (vice and acting consul, Ghent), hydrosilicate of aluminum and magnesium, Belgium, demand, 299.

Vancouver, assay office, 304.
Venezuela:
  Caracas, portable houses, 155.
  Caribe, port improvements, 156.
  Corn and beans, tariff, 255.
  Duties, corn and beans, 304.
  La Guayra, cocoanuts and copra, production, 118.
  Pearl fisheries, 122.
  Port charges, 156.
  Public lands, 455.
  Puerto Cabello, cocoanuts and copra, production, 119.
  Puerto Cabello, imports and exports, 124.
  Puerto Cabello, trade, 124.
  Puerto Cabello, wharf improvements, 155.
  Rubber, 119.
  Tariff changes, 455.
  Tobacco, duty, 302.
  Trade notes, 123.
Vegetable exhibit, Moscow, 299.
Vehicles, self-propelled, Europe, 376.
Ventilators, India, 151.
Vessels, small, propelling, new method, 374.
Viaduct, new, Luxemburg, 353.
Victoria:
  Fruit, fresh, preserving, 152.
  Gold jubilee, 152.
Vienna:
  Apples, South Australian, 450.
  Meat, horse, 386.
Vladivostock, tariff, 454.

Wagon roads, Palestine, 193.
Wall paper, southern France, 368.
Walnut market, France, 79.
Walnut trade, levantine, 79.
Warehouses, bonded, Mexico, 289.
Warner, B. H. (consul, Leipzig):
  Briquettes, coke, Germany, 142.
  Briquettes, garbage, 439.
  Customs regulations, Germany, proposed, 157.
  Exhibition, Dessau, 145.
  Exhibition, wearing apparel, Leipzig, 296.
  Grain futures, Austria, dealings, 150.
  Insulating material, new, 304.
  Lace industry, Germany, 291.

Warner, B. H.—Continued.
  Musical instruments, Germany, trade, 245.
  Pens, United States steel, vs. German, 497.
  Railway, electric, Halle-Merseburg, 451.
  Railways, new State, Prussia and Saxony, 146.
Water power:
  Austria, utilization, 74.
  Ontario, 153.
Wearing-apparel exhibition, Leipzig, 296.
Webster, A. G. (consul, Hobart), copper ores, Tasmania, reduction, 38.
Well-boring machinery:
  Turkey, demand, 94.
  Yucatan, 134.
West Africa:
  British, railways, 309.
  German, cotton raising, 423.
  Trade notes, 111.
West Australia, pearl fishing, 580.
Wharf improvements, Puerto Cabello, 155.
Wharf, Papeete, Society Islands, 574.
Wheat crop:
  France, deficient, 366.
  India, 98.
Wheat:
  Shortage, France, 259.
  United States, Italian macaroni, 85.
White, A. D. (ambassador, Berlin):
  Canal traffic, Germany, 292.
  Grain trade, Germany (1901), 438.
  Tariff revision, Germany, 311.
  Treaty, trade, Germany, with Salvador, 456.
  United States trade, Germany, 246.
Williams, O. F. (consul-general, Singapore), copra, Straits Settlements, 200.
Windmills, Yucatan, 134.
Wine:
  Industry, Germany, 344.
  Portugal, 396.
  Production, Chile, 429.
Winslow, A. A. (consul, Liege), indian corn, Belgium, 390.
Winter, J. F. (consul, Annaberg):
  Commercial conditions, Bolivia, 571.
  Gaslight, Lucas, Germany, 158.
  German East Africa, 181.
  Harbor, Emden, 292.
  Tobacco industry, German, 365.
  Wine industry, Germany, 344.
  Works, art, imports and exports, Germany, 563.
Wood:
  Drying, electric, Austria, 451.
  Preserving, Canada, discovery, 153.
  United States paving, England, 452.
Wool:
  Production and manufacture, France, 514.
  Trade, Arabia, 568.
Works, art, imports and exports, Germany, 563.
Workshops, cooperative, Germany, 439.
World:
  Almond crop, 78.
  Hop crop (1901), 525.
  Industrial supremacy, struggle, 62.
Worman, J. H. (consul, Munich), typesetting machines, Germany, 572.

Yangtze floods, 441.
Yarn, cotton, Chinese vs. Japanese, 567.
Yucatan:
  Imports, free, 280.
  Machinery, well-boring, 134.
  Windmills, 134.
Yukon, Upper, furs, 548.
Yunnan:
  Mineral resources, 307.
  Railway, 307.

Zinc, New South Wales, 417.
Zuider Zee, draining, 75, 572.

3 2044 105 232 458